DEEP SEA ELECTRONICS PLC

DSE8005 SCADA Suite PC Software Manual

Document Number 057-128

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DSE SCADA Suite Software Manual

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Amendments List

Issue	Comments	Minimum SCADA Suite Version required
1	Initial release	
2	Support for 8600 V2 and 8700 V2 controllers	4.5.1.0
3	Support for 8003 7" display and 8680 bus tie controller	4.9.1.0
4	Support for Ethernet added.	5.0.6.0
5	Support for 73xx	5.0.20.0
5.1	Added missing *File*	*new* description and more details of supported controllers	N/A
6	Support for 74xx, 86xx and 88xx	2012.20 V1.37.6.0

Typeface: The typeface used in this document is *Arial*. Care should be taken not to mistake the upper case letter I with the numeral 1. The numeral 1 has a top serif to avoid this confusion.

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1 DESCRIPTION

This manual covers the operation of the **DSE SCADA Suite software** for DSE7300 / DSE7400 / DSE8600 / DSE8700 / DSE 8800 series modules. Separate manuals cover the DSE modules supported by the software. The *Help* menu of the DSE Configuration Suite section of the software contains links to these documents, copied onto the PC during the software installation process.

The **DSE SCADA Suite software** allows the DSE7400 / DSE8600 / DSE8700 / DSE8800 series of modules to be connected to a PC via RS232, RS485 or Ethernet for remote monitoring and control.

The SCADA suite should only be used by competent, qualified personnel, as changes to the operation of the module may have safety implications on the panel / generating set to which it is fitted. Access to the settings in the controller, may be barred by a security code set by the generator provider.
The information contained in this manual should be read in conjunction with the information contained in the appropriate module documentation.

A separate manual deals with the operation of the individual module (See section entitled *Bibliography* elsewhere in this document).

2 INSTALLATION INSTRUCTIONS

For information in regards to instating and using the DSE SCADA Suite Software please refer to DSE publication: ***057-151 DSE Configuration Suite PC Software Installation & Operation Manual*** which can be found on our website: ***www.deepseaplc.com***

3 HARDWARE INSTALLATION

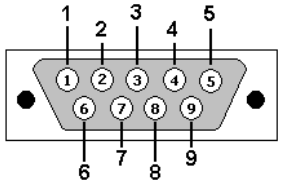
3.1 RS232

RS232 is for short distance communication (max 15m) which can be used for single controller applications to connect to a PC to a DSE controller to enable the use of the DSE SCADA Suite Software.

3.1.1 RS232 CONNECTION

NOTE: An RS232 Null Modem (Cross-over) cable will be required to connect a DSE module to a PC, these can be purchased from any good PC or IT Store.

PIN No	NOTES
1	Received Line Signal Detector (Data Carrier Detect)
2	Received Data
3	Transmit Data
4	Data Terminal Ready
5	Signal Ground
6	Data Set Ready
7	Request To Send
8	Clear To Send
9	Ring Indicator



View looking into the male connector on the DSE controller.

3.1.2 RECOMMENDED PC RS232 SERIAL PORT ADD-ONS

Many PCs are not fitted with an internal RS232 serial port. DSE DOES NOT recommend the use of USB to RS232 convertors but can recommend PC add-ons to provide the computer with an RS232 port. Remember to check these parts are suitable for your PC. Consult your PC supplier for further advice.

- Brainboxes PM143 PCMCIA RS232 card (for laptop PCs)

- Brainboxes VX-001 Express Card RS232 (for laptops and nettops PCs)

- Brainboxes UC246 PCI RS232 card (for desktop PCs)

- Brainboxes PX-246 PCI Express 1 Port RS232 1 x 9 Pin (for desktop PCs)

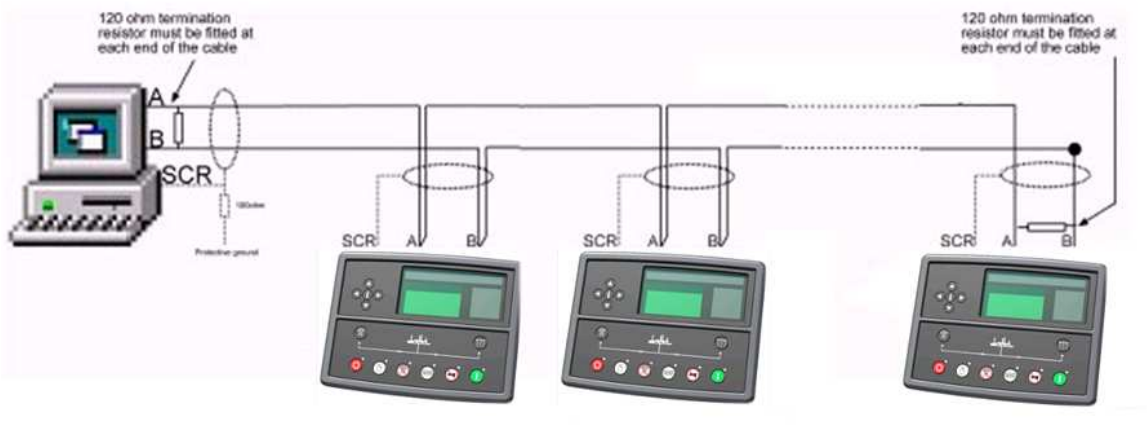
Supplier:
Brainboxes
Tel: +44 (0)151 220 2500
Web: http://www.brainboxes.com
Email: Sales: sales@brainboxes.com

NB DSE Have no business tie to Brainboxes. Over many years, our own engineers have used these products and are happy to recommend them.

3.2 RS485

RS485 is used for point-to-point cable connection of more than one device (maximum 32 devices) over a large distance (max 1.2km) and allows for connection to PC to for use with the DSE SCADA Suite.

3.2.1 RS485 CONNECTION



3.2.2 RECOMMENDED PC RS485 SERIAL PORT ADD-ONS

Many PCs are not fitted with an internal RS485 serial port. DSE DO NOT recommend the use of USB to RS485 convertors but can recommend PC add-ons to provide the computer with an RS485 port. Remember to check these parts are suitable for your PC. Consult your PC supplier for further advice.

- Brainboxes PM154 PCMCIA RS485 card (for laptops PCs)
  Set to ‘Half Duplex, Autogating” with ‘CTS True’ set to ‘enabled’

- Brainboxes VX-023 ExpressCard 1 Port RS422/485 (for laptops and nettop PCs)

- Brainboxes UC320 PCI Velocity RS485 card (for desktop PCs)
  Set to ‘Half Duplex, Autogating” with ‘CTS True’ set to ‘enabled’

- Brainboxes PX-324 PCI Express 1 Port RS422/485 (for desktop PCs)

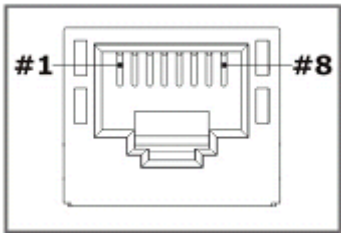
Supplier:
Brainboxes
Tel: +44 (0)151 220 2500
Web: http://www.brainboxes.com
Email: Sales: sales@brainboxes.com

NB DSE Have no business tie to Brainboxes. Over many years, our own engineers have used these products and are happy to recommend them.

3.3 ETHERNET

The DSE7400 and DSE8000 series modules are fitted with an ETHERNET socket for connection to LAN (local area networks)

Terminal	Description
1	TX+
2	TX-
3	RX+
4	Do not connect
5	Do not connect
6	RX-
7	Do not connect
8	Do not connect

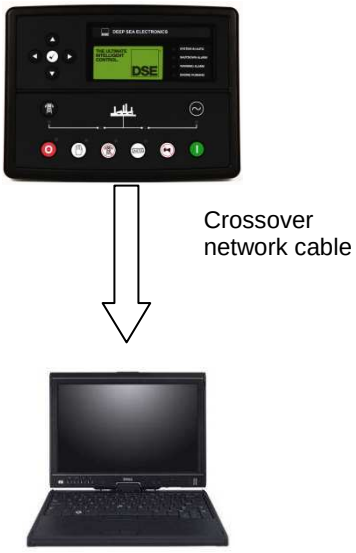


Modules without an Ethernet port can connect to a DSE860 (using RS232) or DSE865 (using RS485) to obtain and Ethernet connection.

3.3.1 DIRECT PC CONNECTION

Requirements

- DSE module with the ability to connect to Ethernet
- Crossover Ethernet cable (see Below)
- PC with Ethernet port

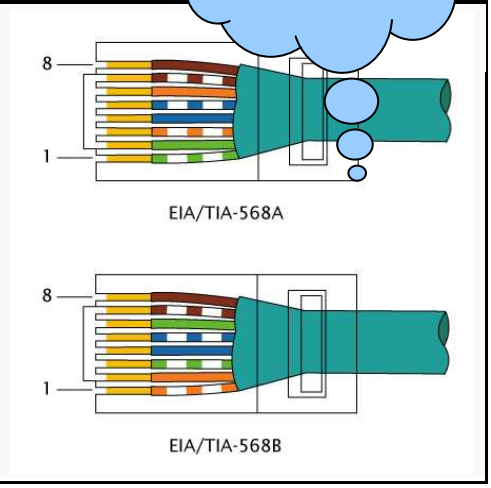


Crossover cable wiring detail

Two pairs crossed, two pairs uncrossed
10baseT/100baseTX crossover

For the advanced Engineer, a crossover cable is a CAT5 cable with one end terminated as T568A and the other end terminated as T568B.

Pin	Connection 1 (T568A)	Connection 2 (T568B)
1	white/green stripe	white/orange stripe
2	green solid	orange solid
3	white/orange stripe	white/green stripe
4	blue solid	blue solid
5	white/blue stripe	white/blue stripe
6	orange solid	green solid
7	white/brown stripe	white/brown stripe
8	brown solid	brown solid

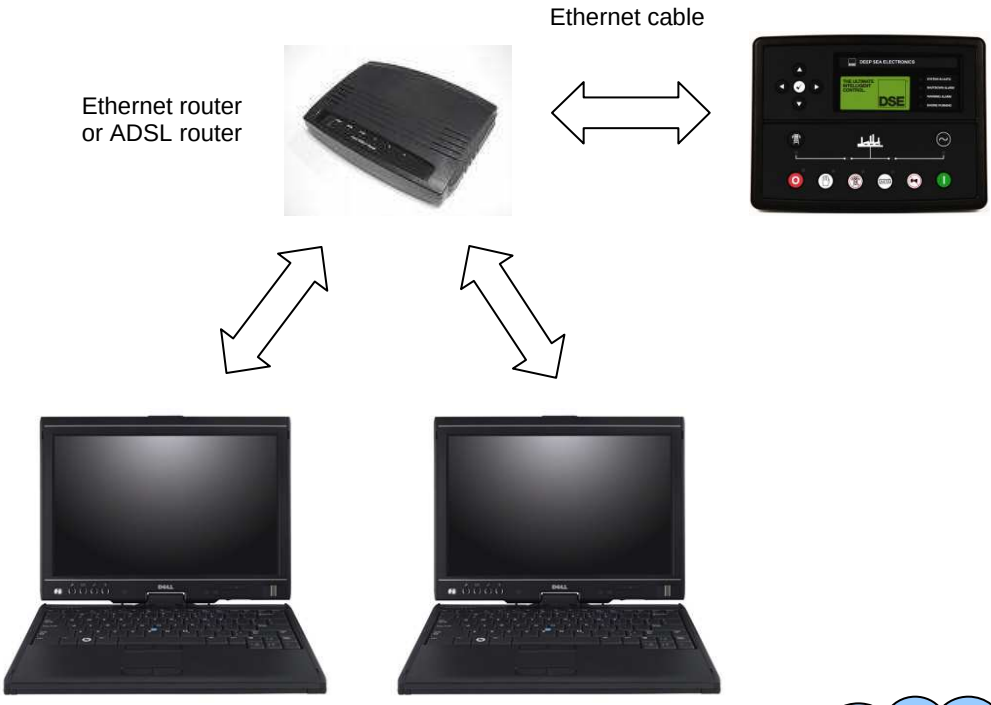


NOTE:- This cable can be purchased from any good PC or IT store.

3.3.2 CONNECTION TO BASIC ETHERNET

Requirements

- DSE module with the ability to connect to Ethernet
- Ethernet cable (see below)
- Working Ethernet (company or home network)
- PC with Ethernet port



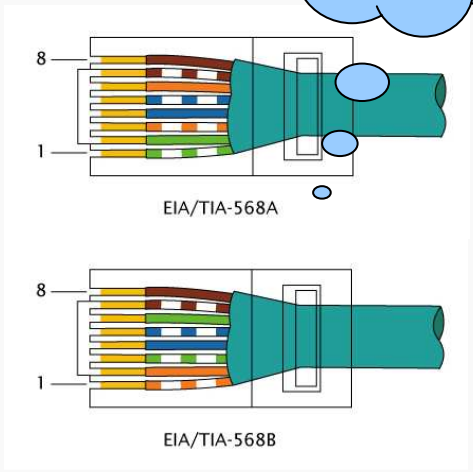
Ethernet cable wiring detail

.

10baseT/100baseT

Pin	Connection 1 (T568A)	Connection 2 (T568A)
1	white/green stripe	white/green stripe
2	green solid	green solid
3	white/orange stripe	white/orange stripe
4	blue solid	blue solid
5	white/blue stripe	white/blue stripe
6	orange solid	orange solid
7	white/brown stripe	white/brown stripe
8	brown solid	brown solid

For the advanced Engineer, this cable has both ends terminated as T568A or T568B.

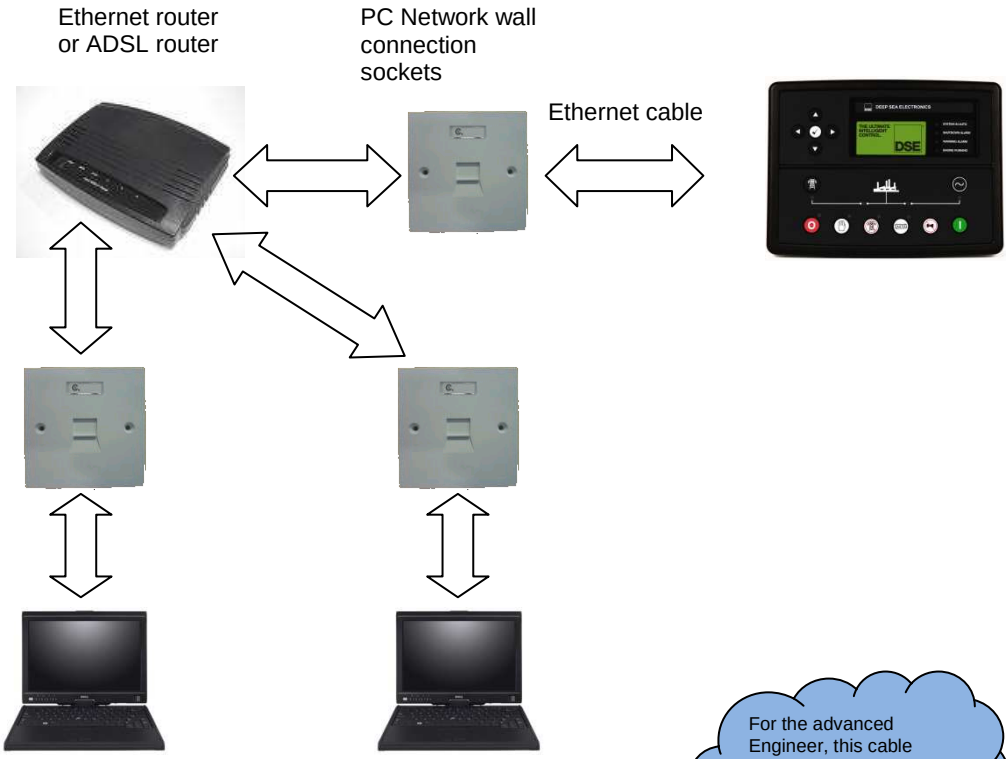


NOTE:- DSE Stock a 2m (2yds) Ethernet Cable – Part number 016-137. Alternatively they can be purchased from any good PC or IT store.

3.3.3 CONNECTION TO COMPANY INFRASTRUCTURE ETHERNET

Requirements

- DSE module with the ability to connect to Ethernet
- Ethernet cable (see below)
- Working Ethernet (company or home network)
- PC with Ethernet port

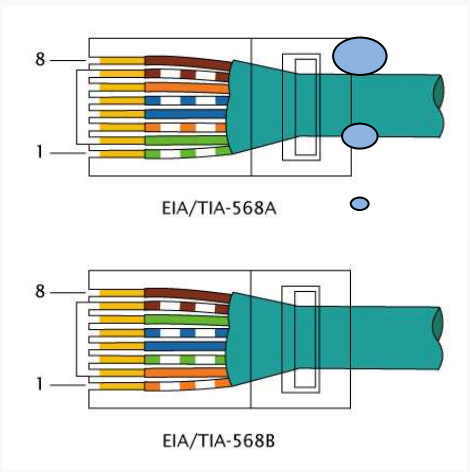


For the advanced Engineer, this cable has both ends terminated as T568A or T568B.

Ethernet cable wiring detail

10baseT/100baseT

Pin	Connection 1 (T568A)	Connection 2 (T568A)
1	white/green stripe	white/green stripe
2	green solid	green solid
3	white/orange stripe	white/orange stripe
4	blue solid	blue solid
5	white/blue stripe	white/blue stripe
6	orange solid	orange solid
7	white/brown stripe	white/brown stripe
8	brown solid	brown solid

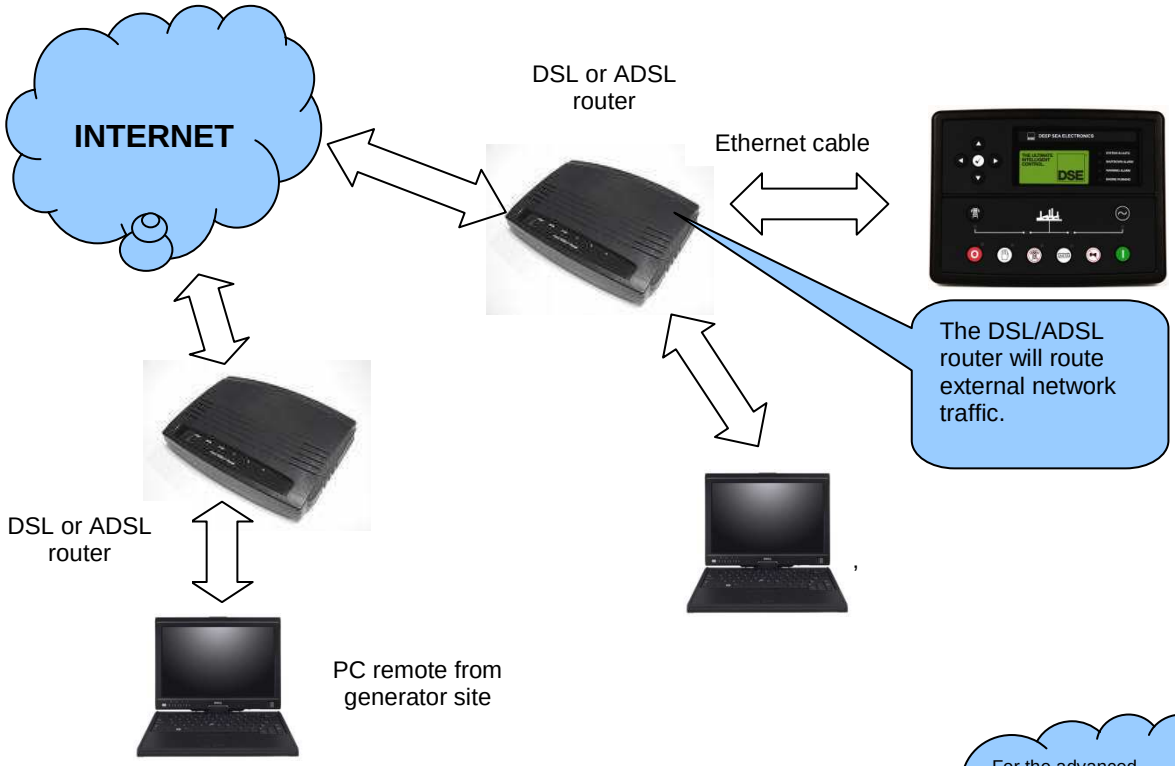


NOTE:- DSE Stock a 2m (2yds) Ethernet Cable – Part number 016-137. Alternatively they can be purchased from any good PC or IT store.

3.3.4 CONNECTION TO THE INTERNET

Requirements

- Ethernet cable (see below)
- Working Ethernet (company or home network)
- Working Internet connection (ADSL or DSL recommended)

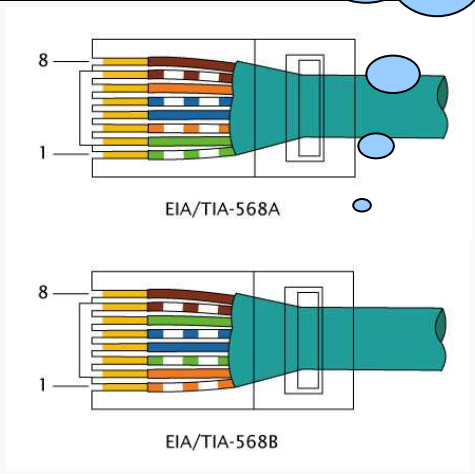

INTERNET
DSL or ADSL router
Ethernet cable
The DSL/ADSL router will route external network traffic.
DSL or ADSL router
PC remote from generator site

Ethernet cable wiring detail

For the advanced Engineer, this cable has both ends terminated as T568A (as shown below) or T568B.

10baseT/100baseT

Pin	Connection 1 (T568A)	Connection 2 (T568A)
1	white/green stripe	white/green stripe
2	green solid	green solid
3	white/orange stripe	white/orange stripe
4	blue solid	blue solid
5	white/blue stripe	white/blue stripe
6	orange solid	orange solid
7	white/brown stripe	white/brown stripe
8	brown solid	brown solid



NOTE:- DSE Stock a 2m (2yds) Ethernet Cable – Part number 016-137. Alternatively they can be purchased from any good PC or IT store.

3.3.5 FIREWALL CONFIGURATION FOR INTERNET ACCESS

As modem/routers differ enormously in their configuration, it is not possible for DSE to give a complete guide to their use with the module. However it is possible to give a description of the requirements in generic terms. For details of how to achieve the connection to your modem/router you are referred to the supplier of your modem/router equipment.

The module makes its data available over Modbus TCP and as such communicates over the Ethernet using a Port configured via the DSE Configuration Suite software.

You must configure your modem/router to allow inbound traffic on this port. For more information you are referred to your WAN interface device (modem/router) manufacturer.

It is also important to note that if the port assigned (setting from software “Modbus Port Number”) is already in use on the LAN, the module cannot be used and another port must be used.

Outgoing Firewall rule

As the module makes its user interface available to standard web browsers, all communication uses the chosen port. It is usual for a firewall to make the same port outgoing open for communication.

Incoming traffic (virtual server)

Network Address and Port Translation (NAPT) allows a single device, such as the modem/router gateway, to act as an agent between the Internet (or "public external network") and a local (or "internal private") network. This means that only a single, unique IP address is required to represent an entire group of computers.

For our application, this means that the WAN IP address of the modem/router is the IP address we need to access the site from an external (internet) location.

When the requests reach the modem/router, we want this passed to a ‘virtual server’ for handling, in our case this is the module.

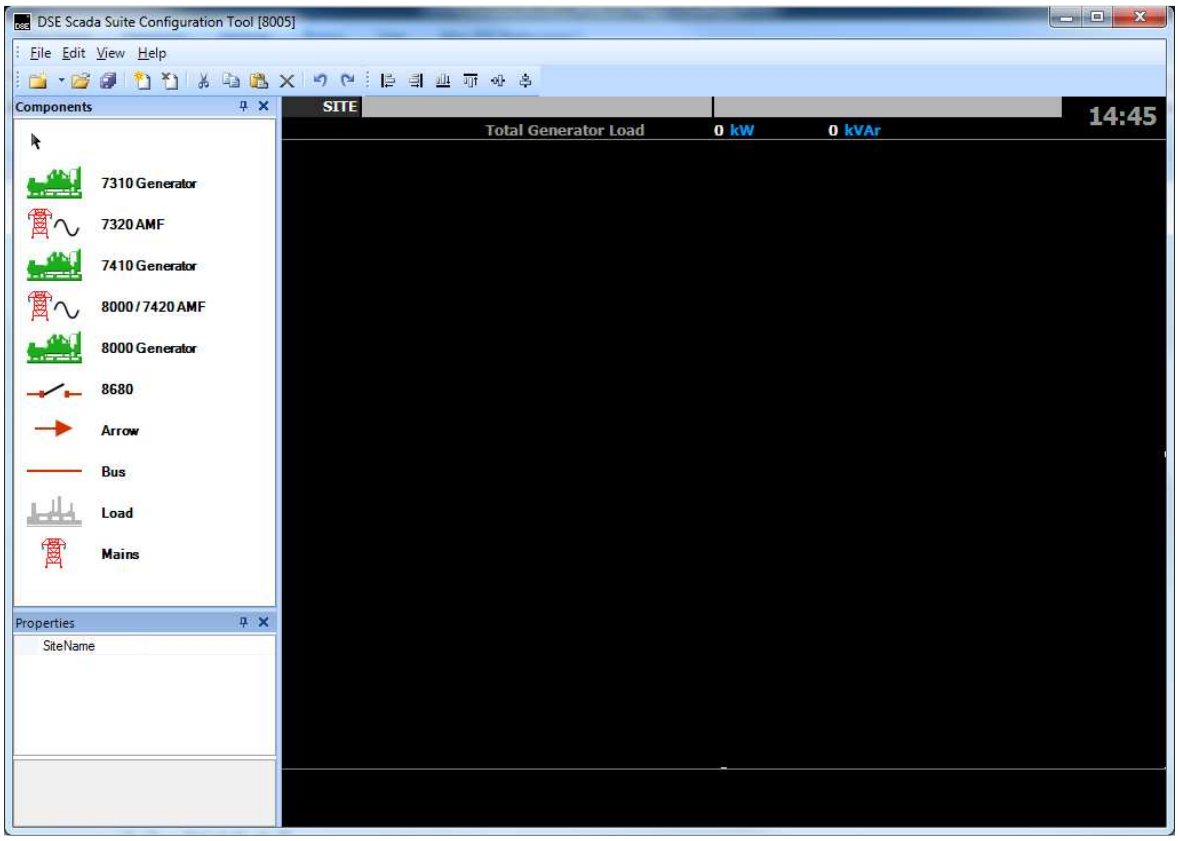
Result : Traffic arriving from the WAN (internet) on port xxx is automatically sent to IP address set within the configuration software on the LAN for handling.

NOTE:- Refer to the modules configuration suite manual further details on configuring

4 CONFIGURING THE SCADA SUITE

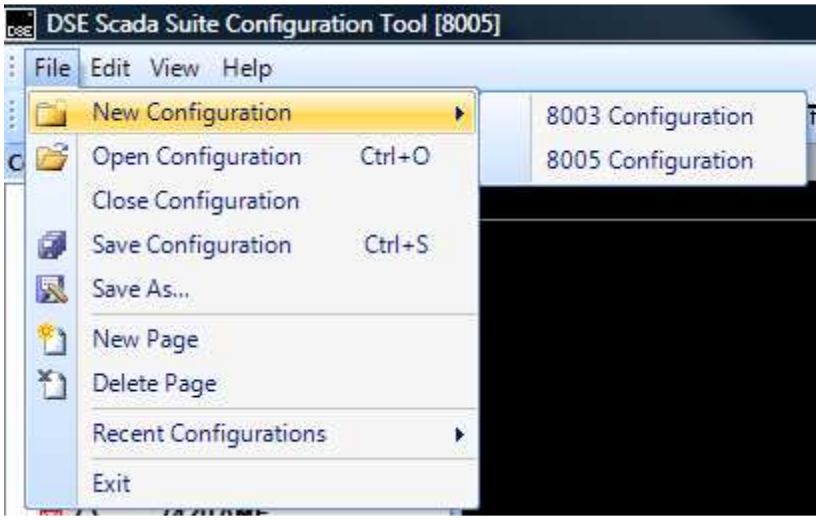
To run the SCADA Suite Editor Software click the Windows start button or depending upon your version of Windows.

In the Programs section of the computer's START menu, select DEEP SEA ELECTRONICS plc | DSE SCADA Suite Configuration tool:



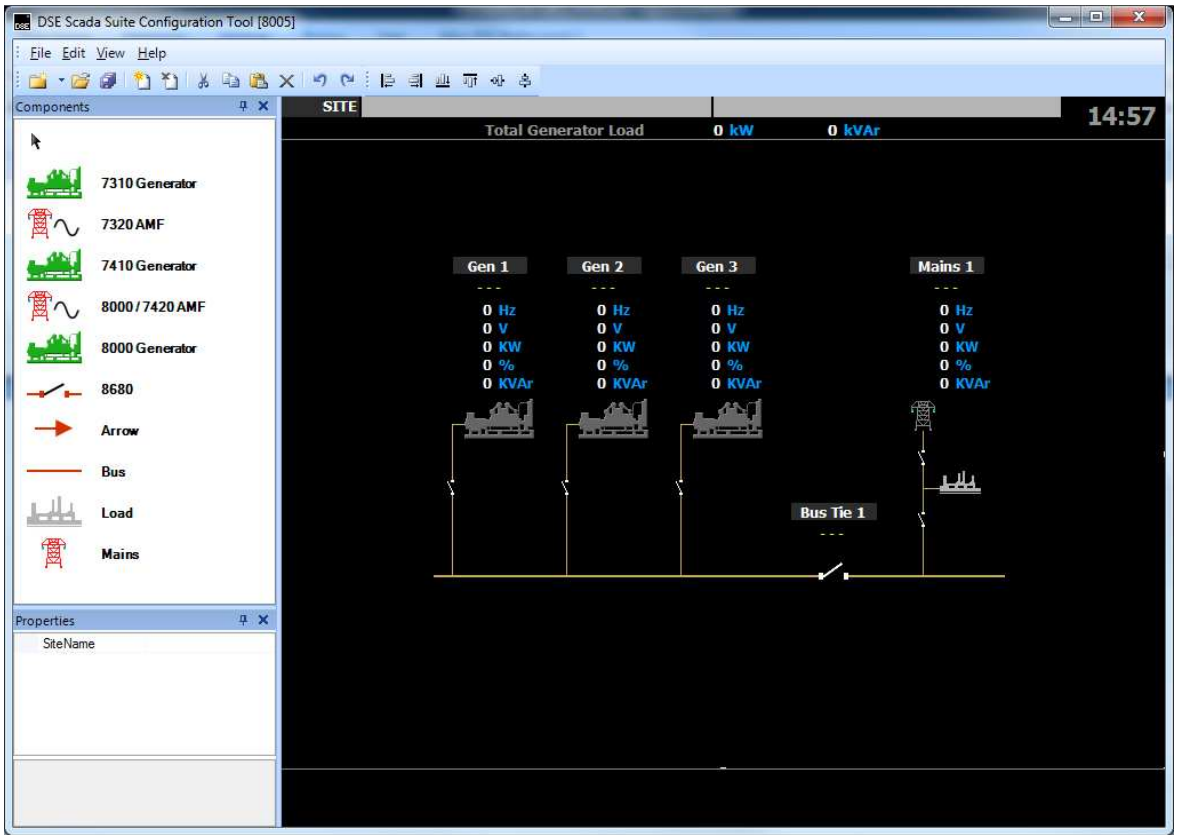
This program allows the creation of a custom graphical interface for the SCADA Suite program DSE8005 or DSE8003 remote colour overview display module.

Upon starting the software you are presented with a 'blank' graphical file suitable for the DSE8005 SCADA Suite PC software. To change this to create a file suitable for DSE8003 7' Overview Display, Select *File* | *New* and select *8003 Configuration:*

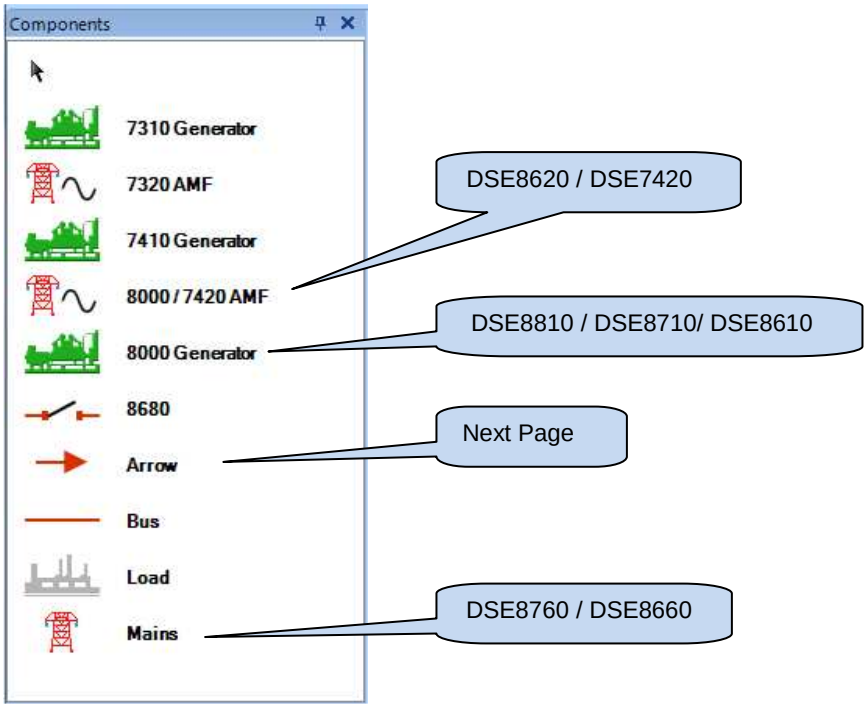


To add devices to the system, ‘drag’ them from the side bar to the canvas.

Example of an entire system :



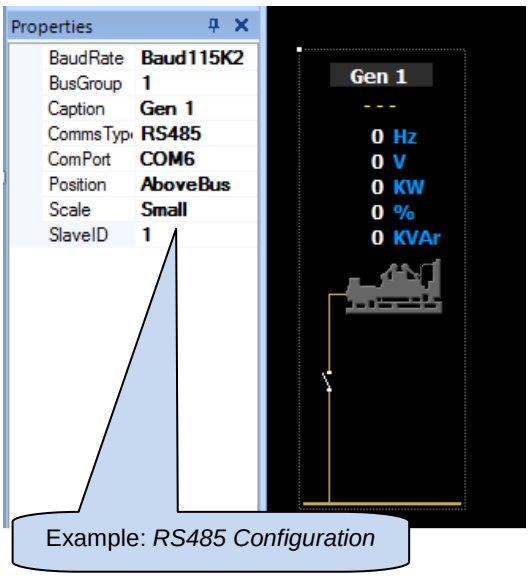
When adding ‘mains’ or ‘generator’ parts to the canvas, it is not necessary to specify the controller type, this is automatically made when the SCADA suite communicates with the controllers. The software is compatible with DSE7300, DSE7400, DSE8400, DSE8600, DSE8700, and DSE8800 series controllers.

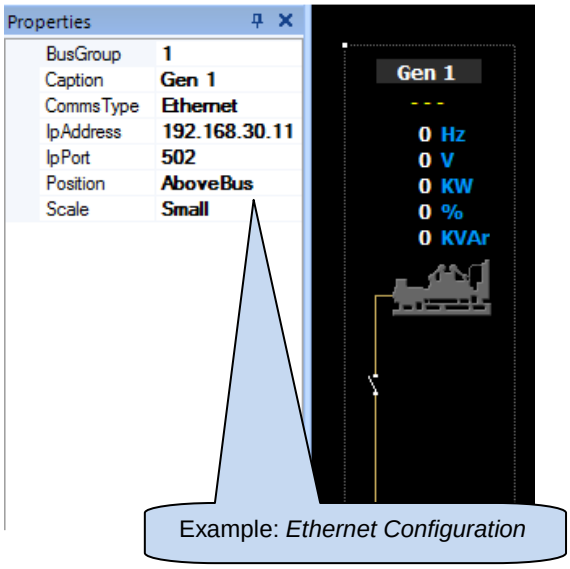


Alignment tools, load, save etc are provided in the modules menu bar and associated toolbar at the top of the graphical editor screen.

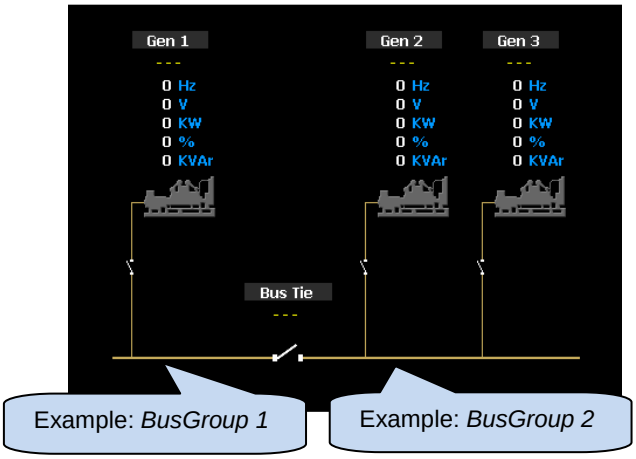
4.1 PROPERTIES

The ‘properties’ section is used to setup the communications with the controller with a choice of RS232, RS485 or Ethernet and set the graphical properties of the display such as the controller’s name (ie Gen1) and whether the symbol appears above or below the ‘bus’.





Bus Group allows the symbol to ‘belong’ on the same generator bus as others. For example the display can show two independent generator buses, not connected.

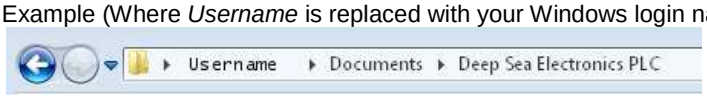


4.2 SAVING FOR USE WITH DSE8005 SCADA SUITE PC SOFTWARE

Save the file to the *Deep Sea Electronics PLC* located in your Documents folder, with the filename:-

- ***DSEScadaSuite.xml***.

Example (Where *Username* is replaced with your Windows login name) :



When SCADA Suite is started, this configuration file is automatically loaded by the software.

4.3 SAVING FOR USE WITH DSE8003 7” COLOUR OVERVIEW DISPLAY

Save the file to the root of a USB pen drive with the filename:-

- ***layout.xml***

Insert this pen drive into the USB host socket of the DSE8003 7” colour overview display.
When the DSE8003 display is powered up, this configuration file is automatically loaded.

Operation of the DSE8003 display is covered in: DSE publication *057-134 DSE8003 colour display operator manual.*

5 USING THE SCADA SUITE

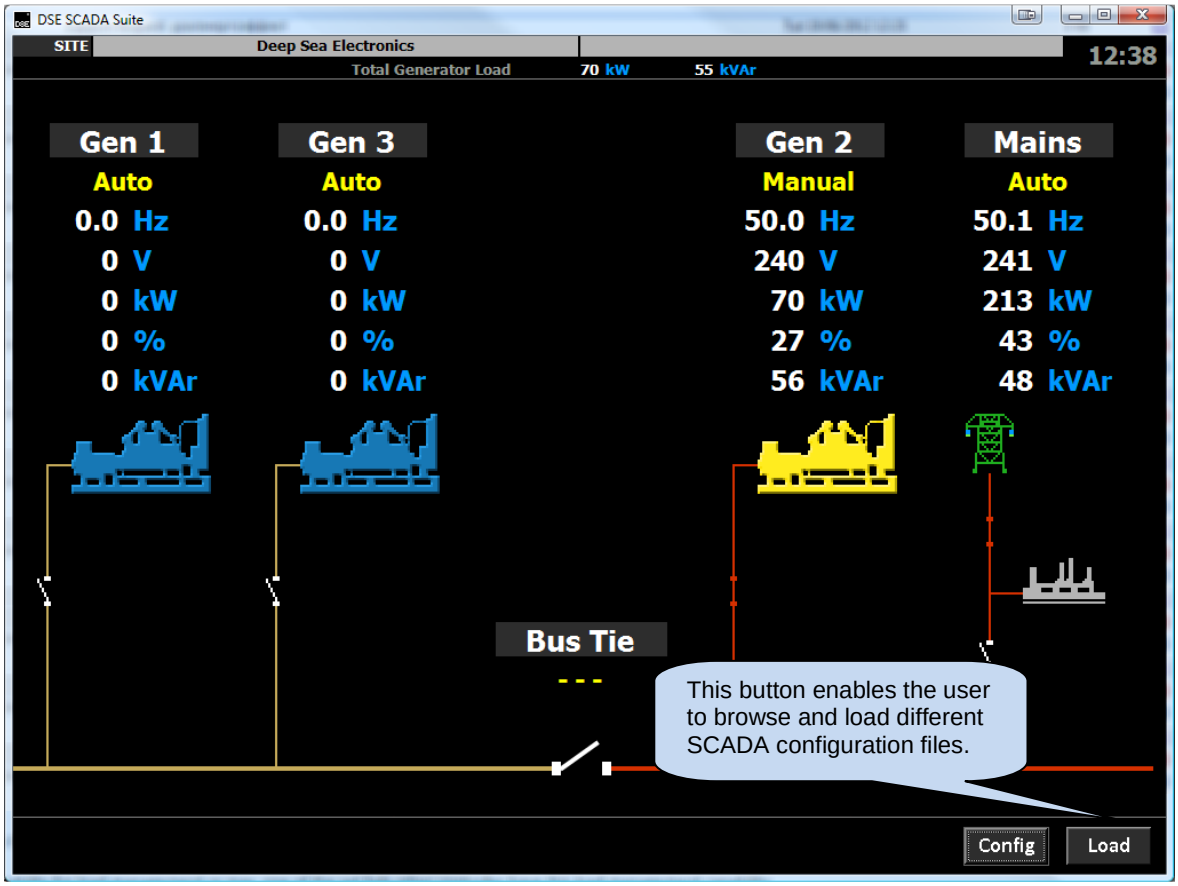
To run the SCADA Suite Software program click the Windows start button or depending upon your version of Windows.

Then select ‘All Programs’ - ‘Deep Sea Electronics PLC’ – “DSE SCADA Suite”

After a short delay to load the application, the main display is shown. The layout of this screen is application dependant and shows a representative diagram of the system.

5.1 SYSTEM

The image below shows an example with three DSE8610’s, one DSE8660’s and one DSE8680 controller.



Clicking with the left mouse button in the vicinity of the generator or mains icons will change the display to show the relevant control and instrumentation page.
Clicking with the right mouse button in the vicinity of the generator or mains icons will open the generator ‘Running Editor’.

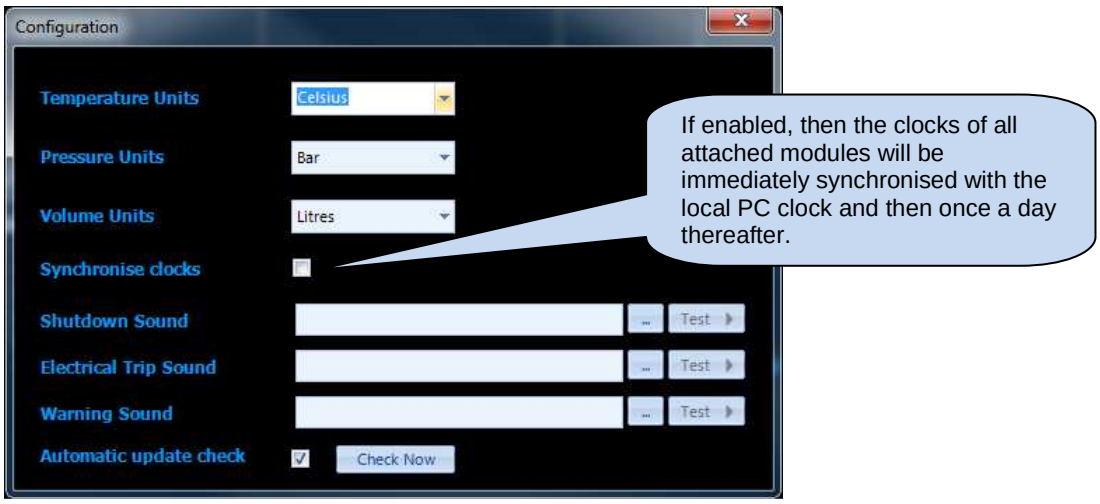
Clicking the CONFIG button allows configuration of the application options.

The colour of the generator / mains symbols change dependant upon level of the alarm.

Gen Icon	Mains Icon	Colour	Description
		Grey	Controller is offline (no communication)
		Light Blue	Controller is online (communicating) in STANDBY Any mode
		Green	Controller is started/active or Engine/Generator is RUNNING Any mode
		Yellow	Controller has a WARNING alarm present
		Red	Controller has a SHUTDOWN or electrical trip alarm present

5.1.1 CONFIG

Clicking the CONFIG button on the *System* page allows configuration of the application options. This allows configuration of the display parameters and selection of the alarm sounds.



5.1.2 RUNNING EDITOR

Clicking the mouse with the right mouse button in the vicinity of the generator or mains icons on the *System* page will open the generator 'Running Editor'.

Changes made with the Running Editor take place immediately and the value is changed. There is no need to 'save' the changes. These parameters are also changed from the module fascia, DSE Config Suite SCADA section and by Modbus RTU command from a suitably configured Master device.

Parameter	Description
Generator Priority	Generator Run Priority for the 'Load Demand' scheme
Select Mode	Select between: Bus/Gen Mode: Upon loading of the bus/generators in parallel with a mains supply, places them into fixed export. Mains Mode: Upon loading of the bus/generators in parallel with a mains supply, places them into a peak lopping/shaving application.
Parallel Power (Min)	This is the 'bottom' of the load ramp. When the generator joins the bus, it will ramp up from this setting after closing the breaker. When the generator leaves the bus, it will ramp down to this setting before opening the breaker.
Parallel Power (Max)	The power level to be produced by the generator when in 'mains parallel mode' (fixed export mode).
Parallel Power Factor	The power factor to be supplied by the generator when in 'mains parallel mode' (fixed export mode).

5.2 AUTOSTART CONTROLLER

NOTE: Depending upon module type and configuration, certain pages and values may not be displayed, the screenshots are for indication only.

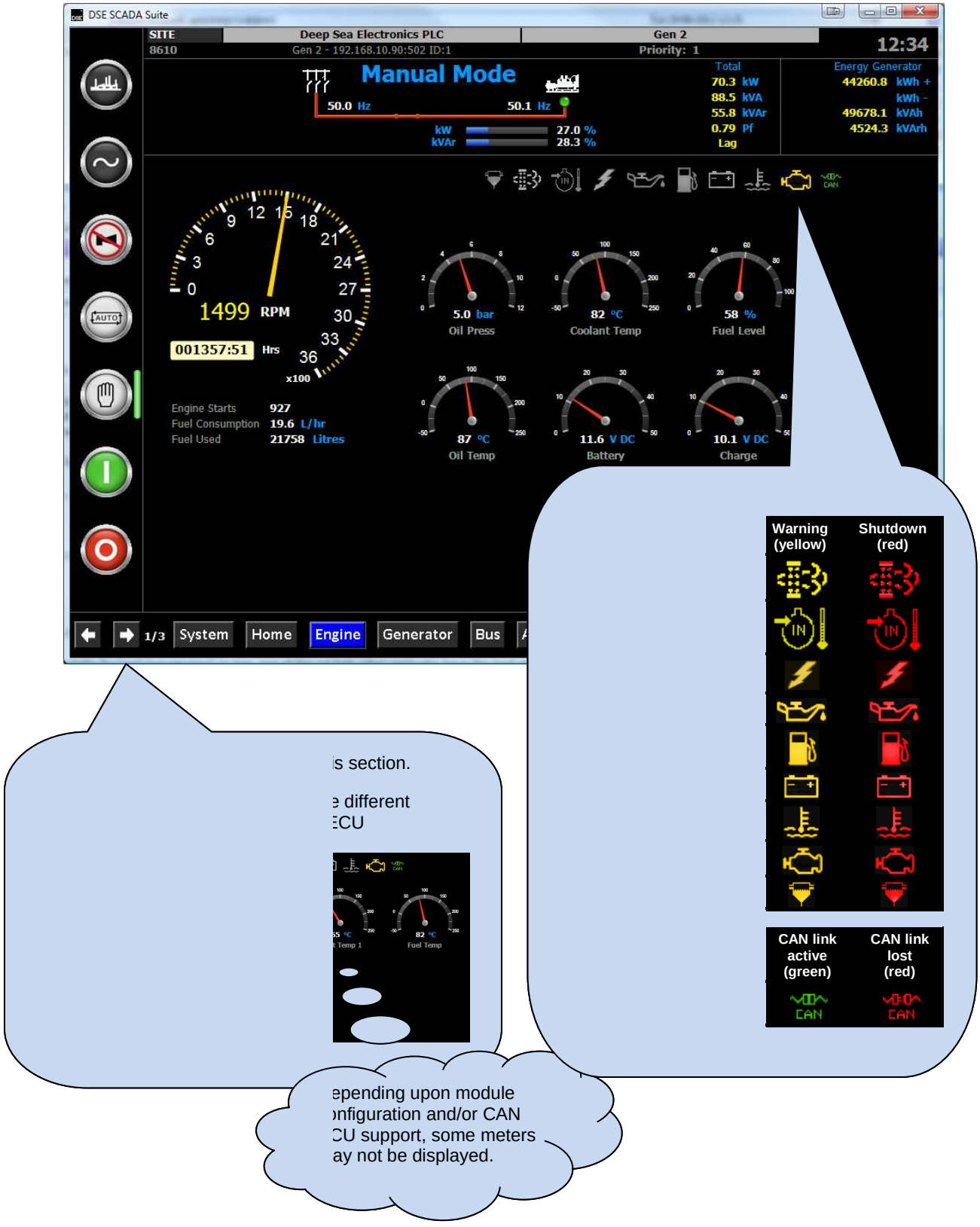
5.2.1 HOME

Genset Identity, Status and overview is shown at the top of every page. Genset and Site Identity are set using the DSE Config Suite Software.

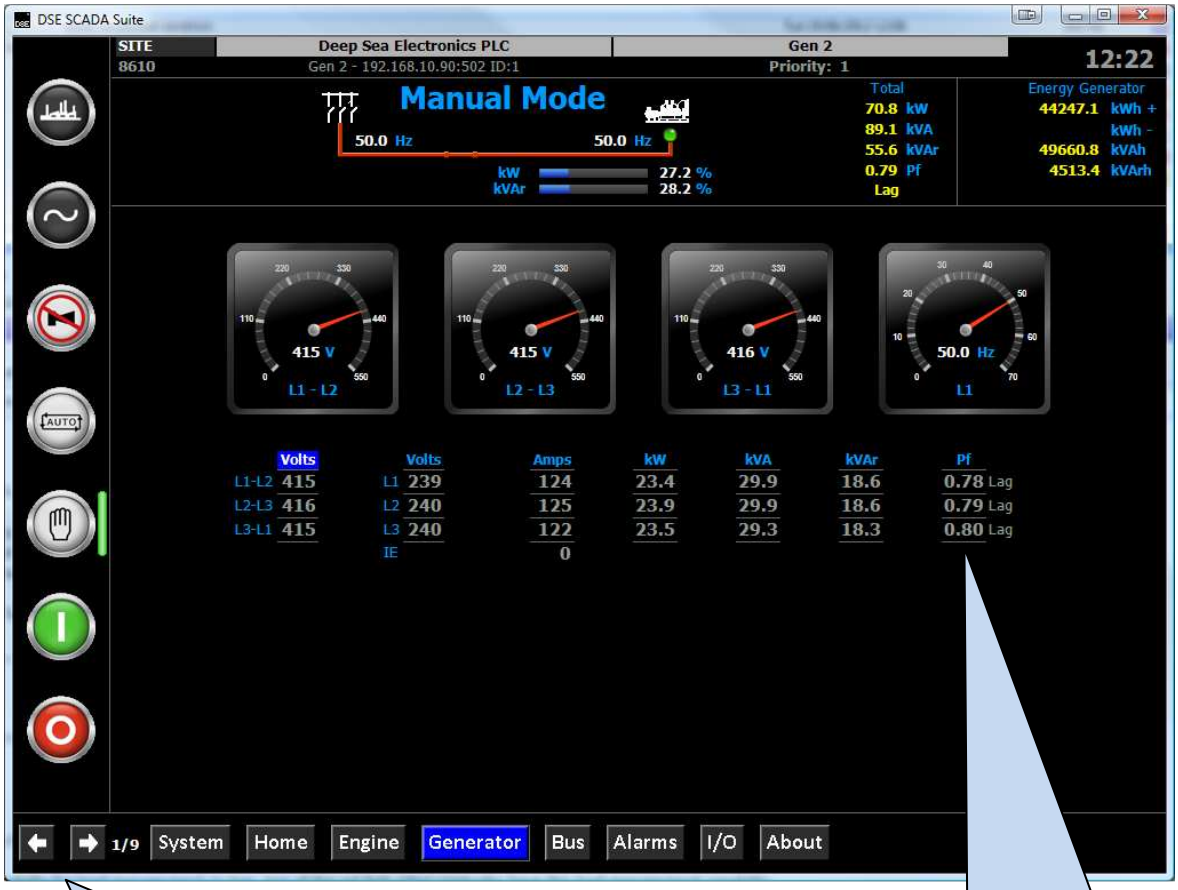
Control buttons to mimic the module's own fascia mounted buttons. Availability of some buttons depends upon the module type. The vertical green bar shows the module's current operating mode.

Indicates the current page selected. Click the buttons to change the page.

5.2.2 ENGINE

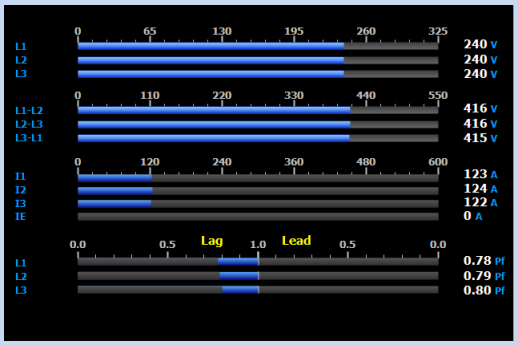

DSE SCADA Suite
SITE
8610
Deep Sea Electronics PLC
Gen 2 - 192.168.10.90:502 ID:1
Gen 2
Priority: 1
12:34
Manual Mode
50.0 Hz
50.1 Hz
kW
kVAr
27.0 %
28.3 %
Total
70.3 kW
88.5 kVA
55.8 kVAr
0.79 Pf
Lag
Energy Generator
44260.8 kWh +
kWh -
49678.1 kVAh
4524.3 kVArh
1499 RPM
001357:51 Hrs
x100
Engine Starts 927
Fuel Consumption 19.6 L/hr
Fuel Used 21758 Litres
5.0 bar
Oil Press
82 °C
Coolant Temp
58 %
Fuel Level
87 °C
Oil Temp
11.6 V DC
Battery
10.1 V DC
Charge
1/3
System
Home
Engine
Generator
Bus
Warning (yellow)
Shutdown (red)
CAN link active (green)
CAN link lost (red)
CAN
CAN
is section.
e different
ECU
epending upon module
onfiguration and/or CAN
CU support, some meters
ay not be displayed.

5.2.3 GENERATOR



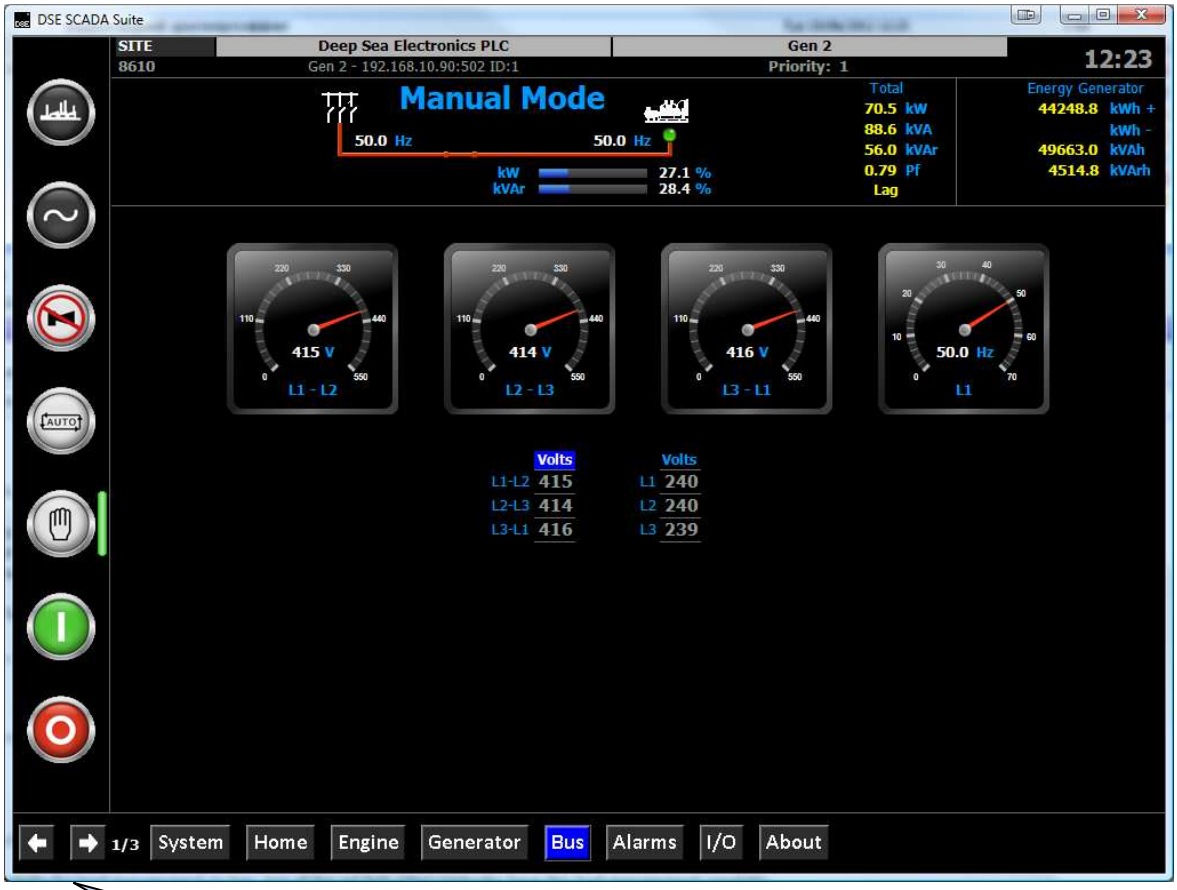
Indicates that this is page 1 of 9 in this section.

Press to move between the different pages including bargraph display:



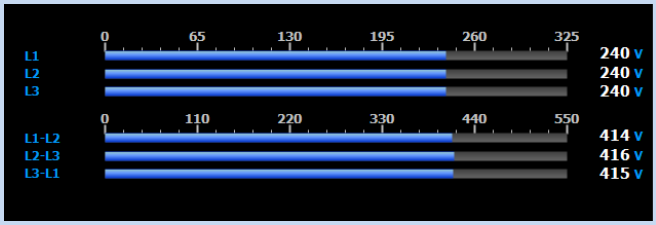
In line with normal convention:
Positive (+) power factor is lagging power factor
Negative (-) power factor is leading power factor

5.2.4 BUS

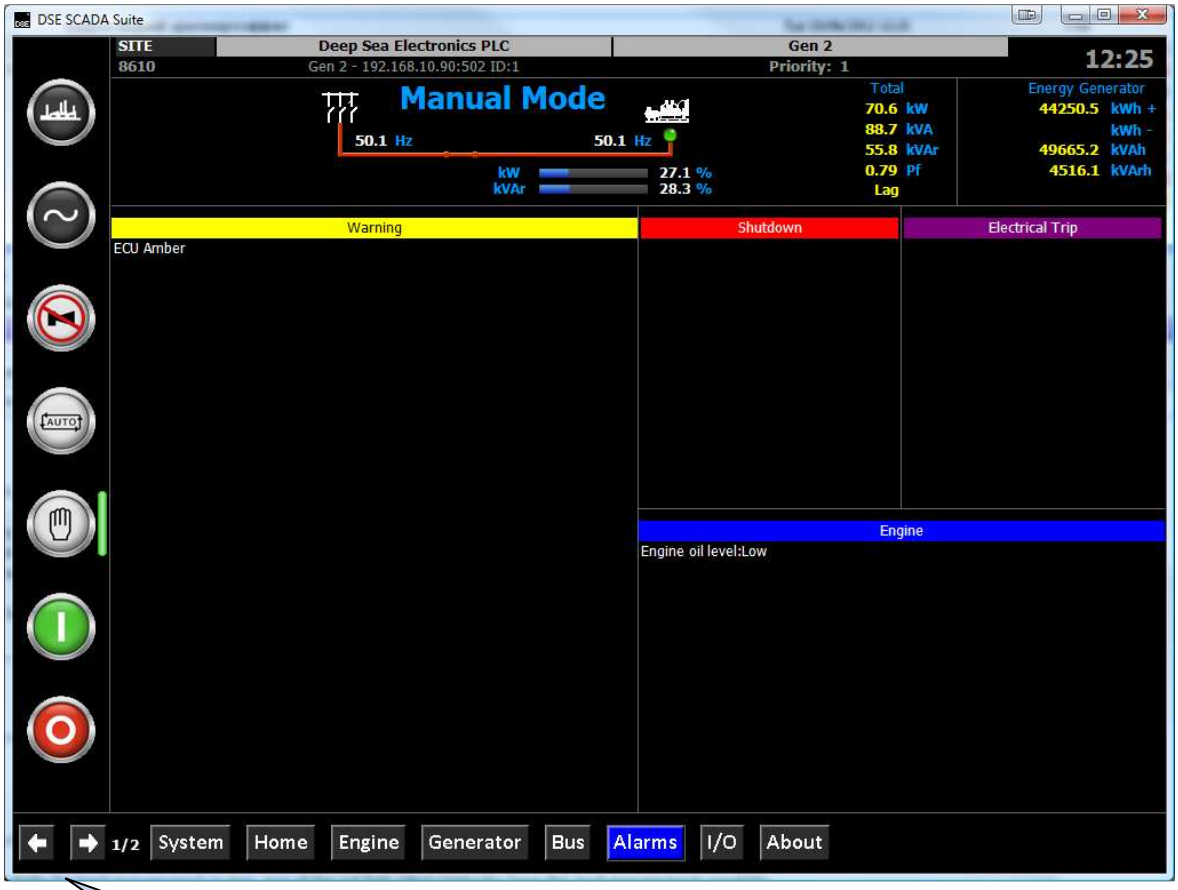


Indicates that this is page 1 of 3 in this section.

Press to move between the different pages including bargraph display:

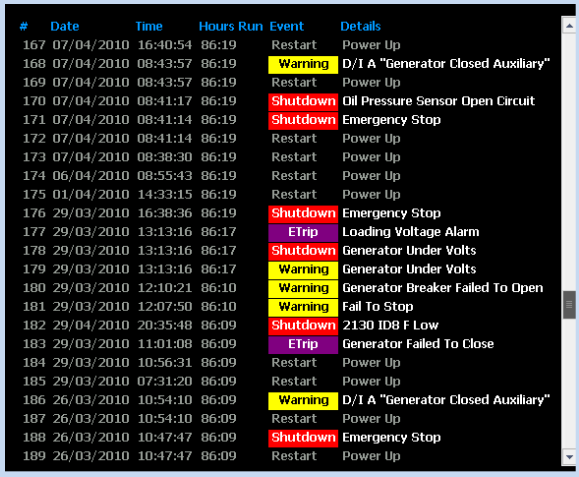


5.2.5 ALARMS



Indicates that this is page 1 of 2 in this section.

Press to move between the current alarms and the past event log :

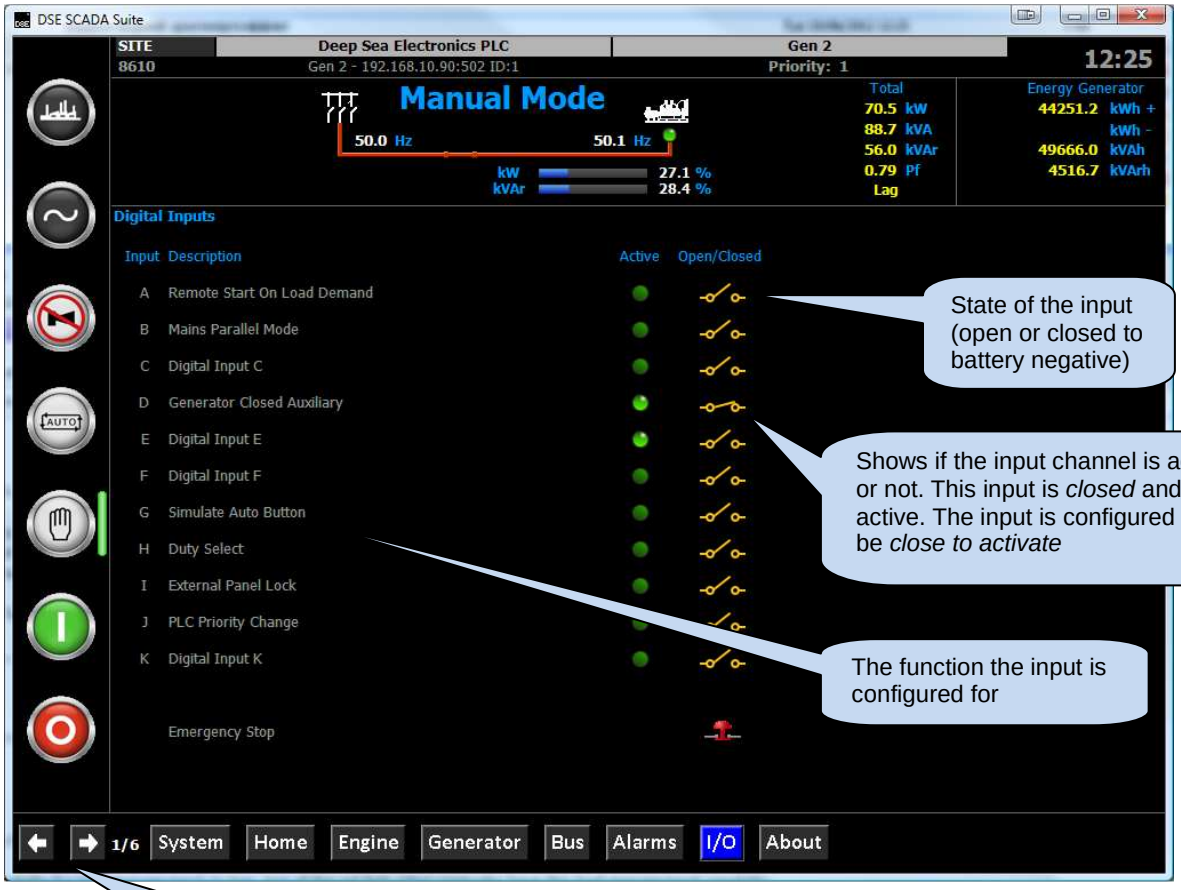


#	Date	Time	Hours Run	Event	Details
167	07/04/2010	16:40:54	86:19	Restart	Power Up
168	07/04/2010	08:43:57	86:19	Warning	D/I A "Generator Closed Auxiliary"
169	07/04/2010	08:43:57	86:19	Restart	Power Up
170	07/04/2010	08:41:17	86:19	Shutdown	Oil Pressure Sensor Open Circuit
171	07/04/2010	08:41:14	86:19	Shutdown	Emergency Stop
172	07/04/2010	08:41:14	86:19	Restart	Power Up
173	07/04/2010	08:38:30	86:19	Restart	Power Up
174	06/04/2010	08:55:43	86:19	Restart	Power Up
175	01/04/2010	14:33:15	86:19	Restart	Power Up
176	29/03/2010	16:38:36	86:19	Shutdown	Emergency Stop
177	29/03/2010	13:13:16	86:17	ETrip	Loading Voltage Alarm
178	29/03/2010	13:13:16	86:17	Shutdown	Generator Under Volts
179	29/03/2010	13:13:16	86:17	Warning	Generator Under Volts
180	29/03/2010	12:10:21	86:10	Warning	Generator Breaker Failed To Open
181	29/03/2010	12:07:50	86:10	Warning	Fail To Stop
182	29/04/2010	20:35:48	86:09	Shutdown	2130 ID8 F Low
183	29/03/2010	11:01:08	86:09	ETrip	Generator Failed To Close
184	29/03/2010	10:56:31	86:09	Restart	Power Up
185	29/03/2010	07:31:20	86:09	Restart	Power Up
186	26/03/2010	10:54:10	86:09	Warning	D/I A "Generator Closed Auxiliary"
187	26/03/2010	10:54:10	86:09	Restart	Power Up
188	26/03/2010	10:47:47	86:09	Shutdown	Emergency Stop
189	26/03/2010	10:47:47	86:09	Restart	Power Up

Alarm level	Colour/Title graphic
Warning	Warning
Electrical trip	Electrical Trip
Shutdown	Shutdown
ECU code	Engine

5.2.6 I/O

5.2.6.1 INPUTS



State of the input (open or closed to battery negative)

Shows if the input channel is active or not. This input is *closed* and is active. The input is configured to be *close to activate*

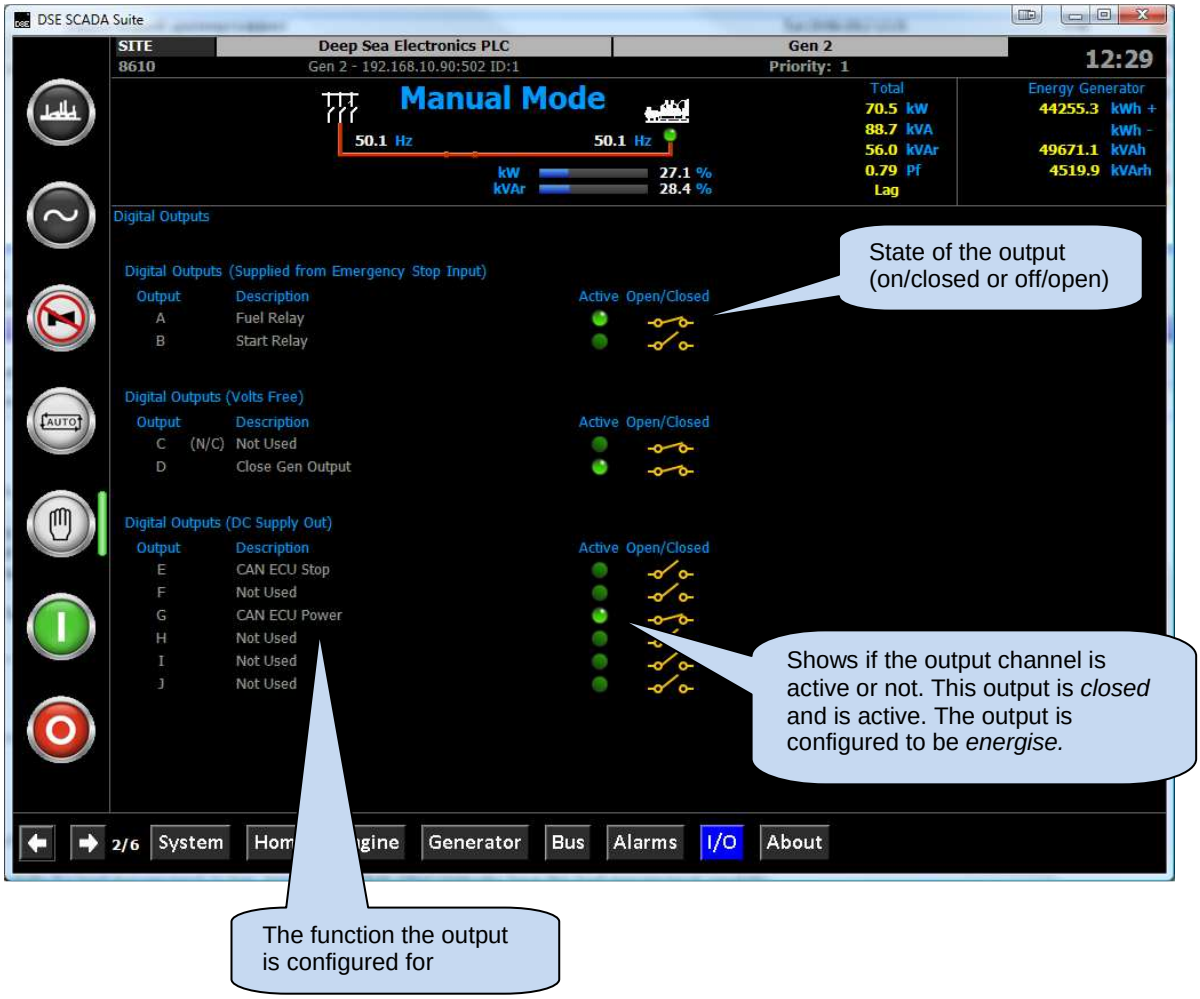
The function the input is configured for

Indicates that this is page 1 of 6 in this section.

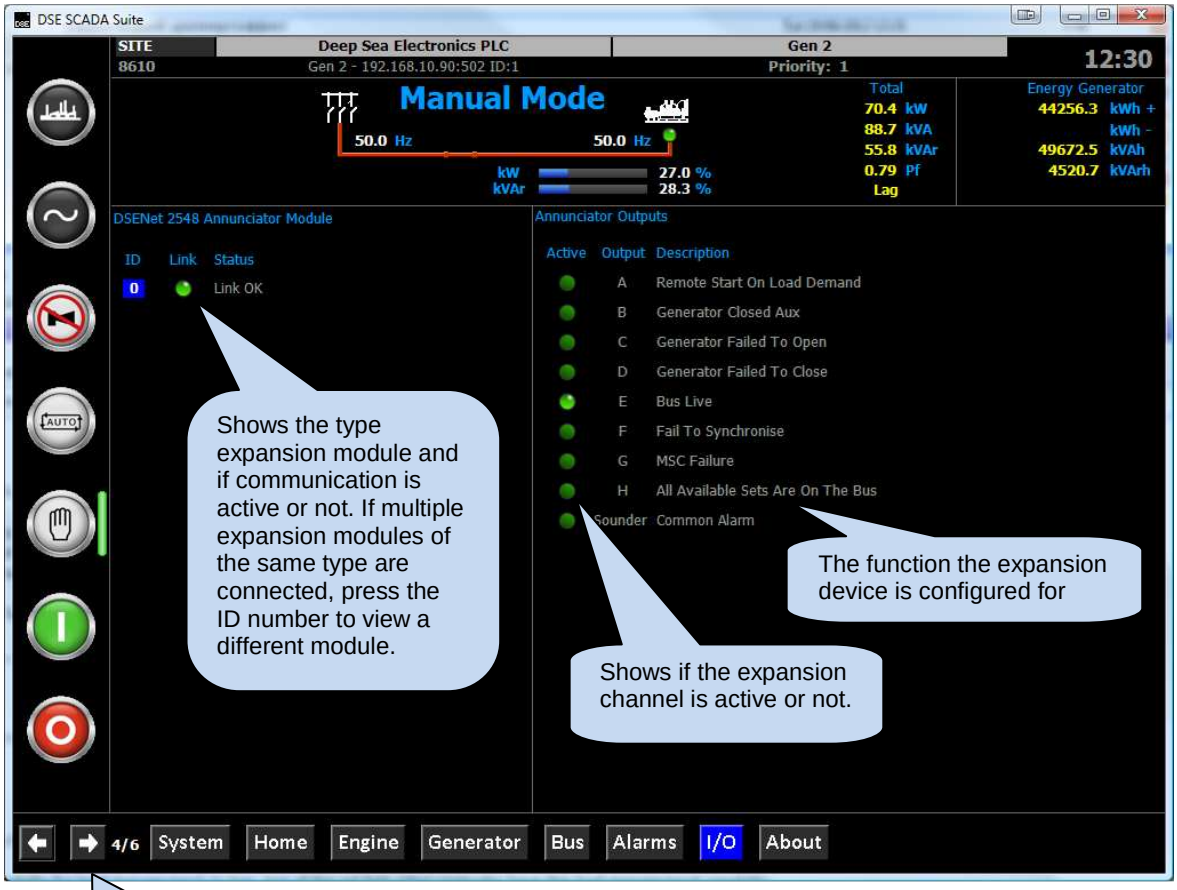
Press to move between the inputs and outputs of both the module and its expansion modules:

.

5.2.6.2 OUTPUTS

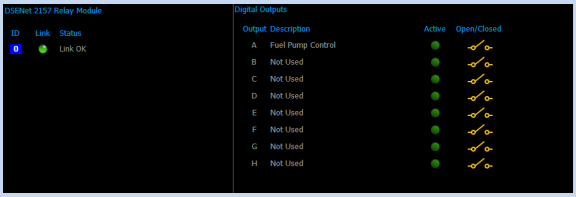


5.2.6.3 EXPASNION MODULES

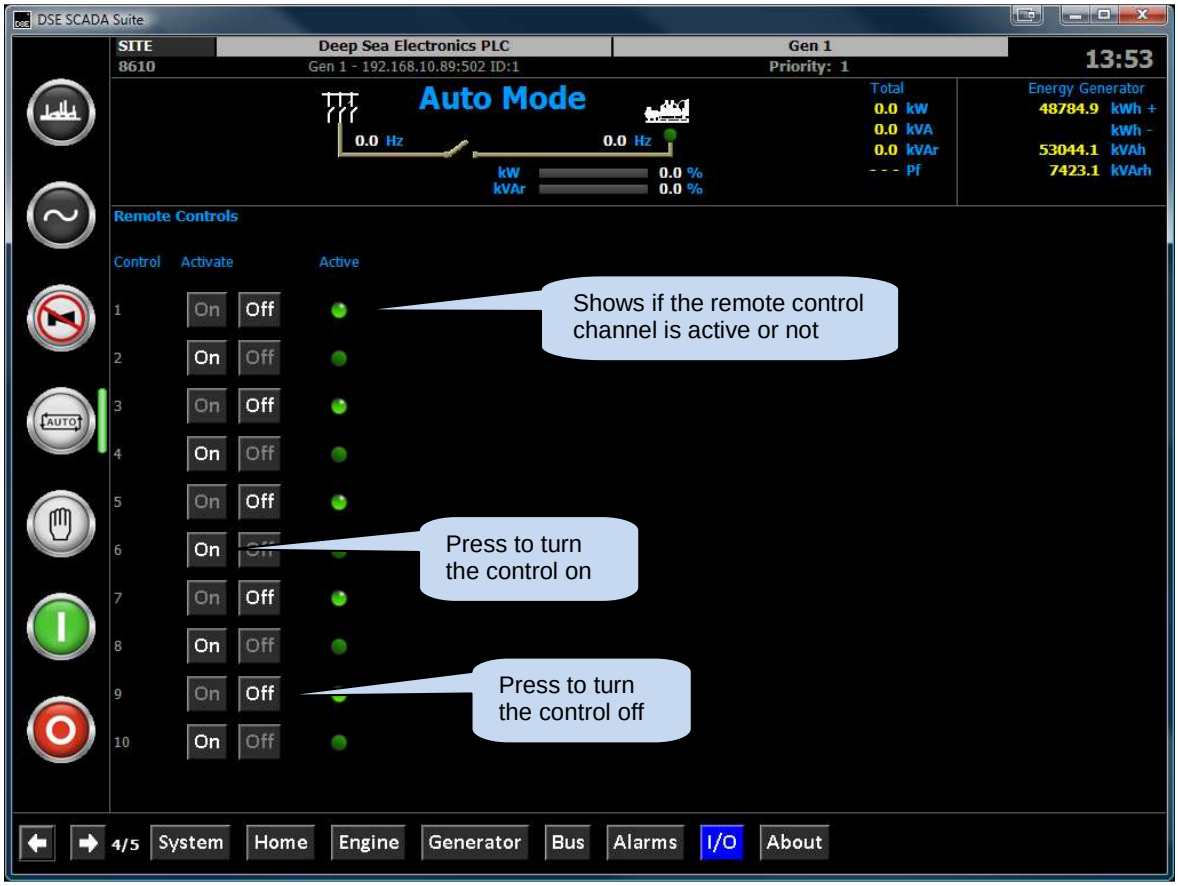


Indicates that this is page 4 of 6 in this section.

Press to move between the different types expansion modules and the inputs and outputs:

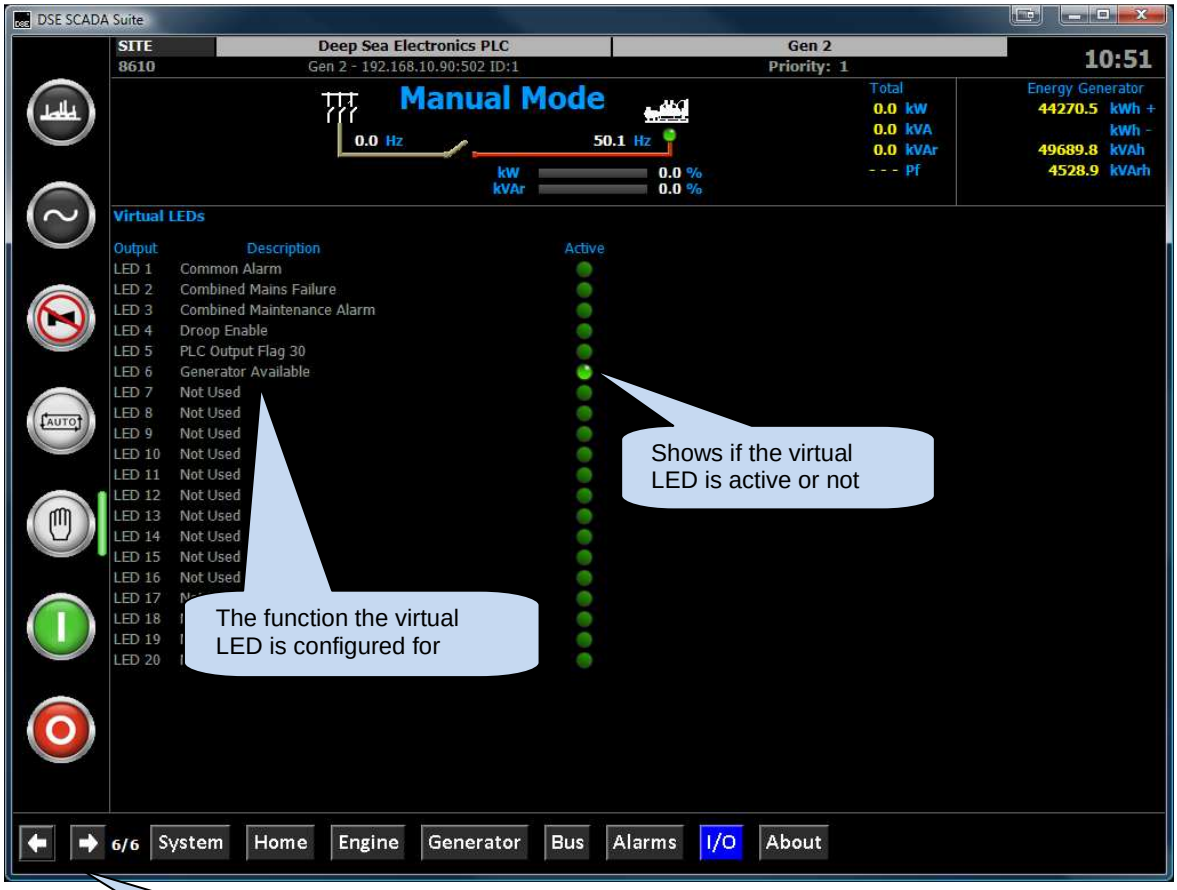


5.2.6.4 REMOTE CONTROL



NOTE: Check the modules configuration before activating a remote control channel. Activating a remote control channel can change the operation of the DSE module.

5.2.6.5 VIRTUAL LEDS

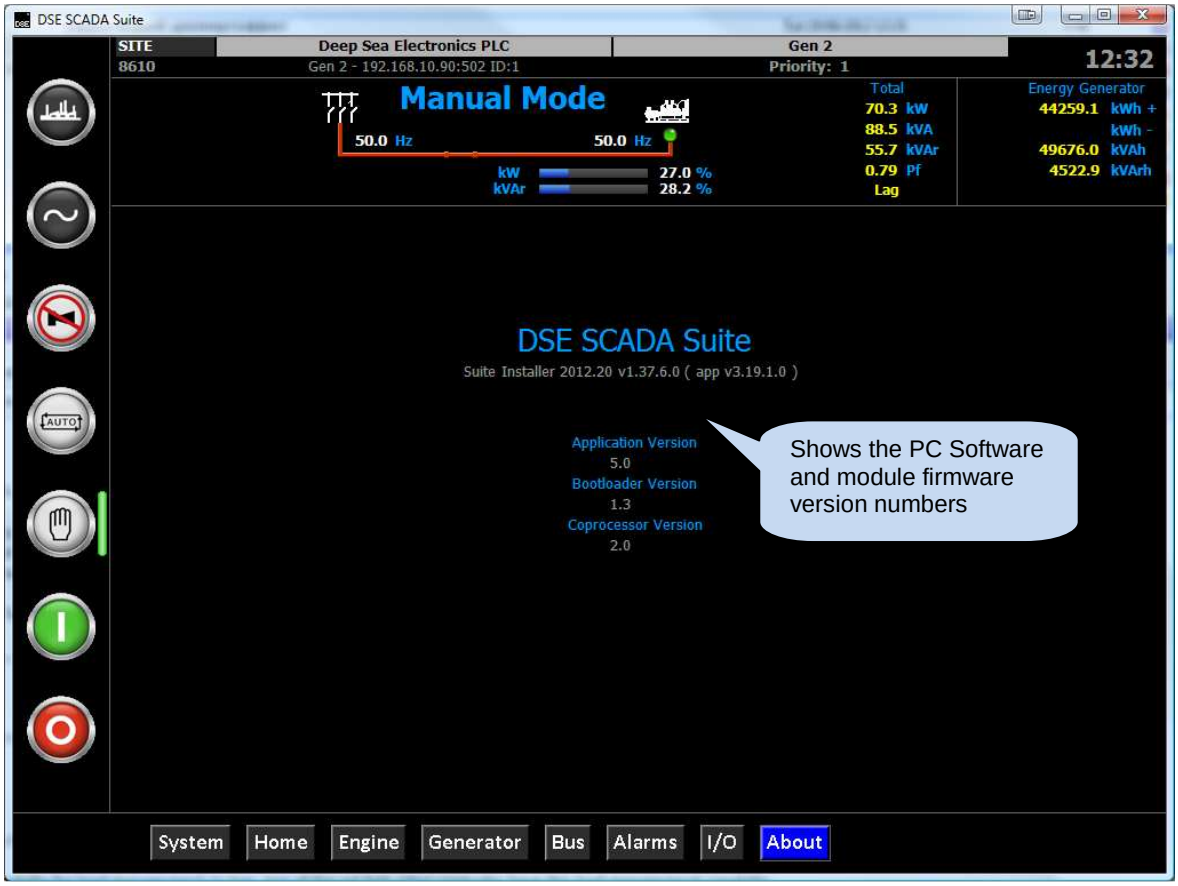


Indicates that this is page 6 of 6 in this section.

Press to move between the inputs and outputs of both the module and its expansion modules:

.

5.2.7 ABOUT


DSE SCADA Suite
SITE
8610
Deep Sea Electronics PLC
Gen 2 - 192.168.10.90:502 ID:1
Gen 2
Priority: 1
12:32
Manual Mode
50.0 Hz
50.0 Hz
kW
kVAr
27.0 %
28.2 %
Total
70.3 kW
88.5 kVA
55.7 kVAr
0.79 Pf
Lag
Energy Generator
44259.1 kWh +
kWh -
49676.0 kVAh
4522.9 kVArh
DSE SCADA Suite
Suite Installer 2012.20 v1.37.6.0 (app v3.19.1.0)
Application Version
5.0
Bootloader Version
1.3
Coprocessor Version
2.0
Shows the PC Software and module firmware version numbers
System
Home
Engine
Generator
Bus
Alarms
I/O
About

5.3 AUTOMATIC MAINS FAILURE CONTROLLER

NOTE: Depending upon module type and configuration, certain pages and values may not be displayed, the screenshots are for indication only.

5.3.1 HOME

AMF Identity, Status and overview is shown at the top of every page. AMF and Site Identity are set using the DSE Config Suite Software.

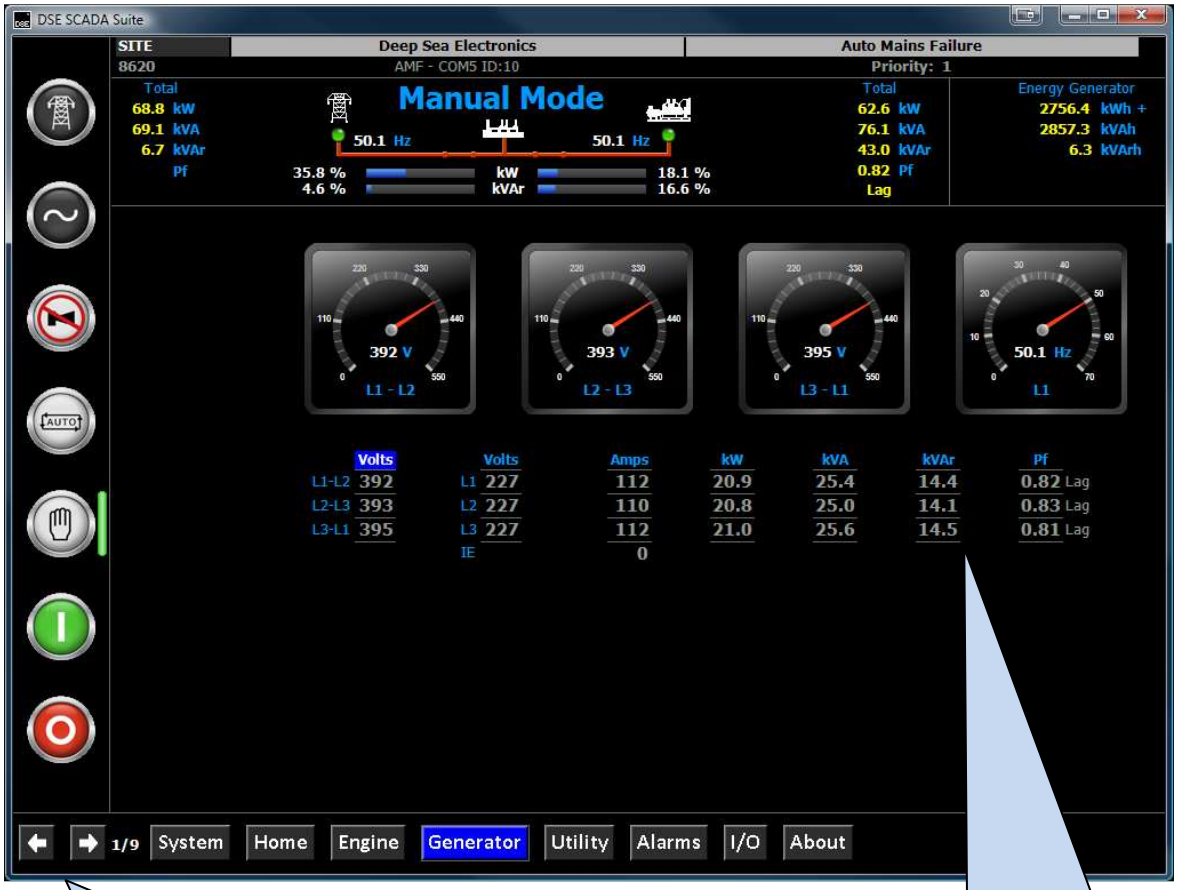
Control buttons to mimic the module's own fascia mounted buttons. Availability of some buttons depends upon the module type. The vertical green bar shows the module's current operating mode.

Indicates the current page selected. Click the buttons to change the page.

5.3.2 ENGINE

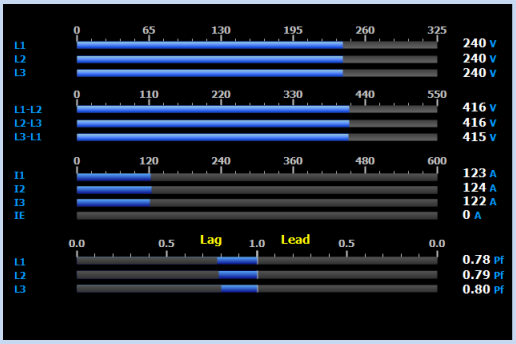
DSE SCADA Suite
SITE
8620
Deep Sea Electronics
AMF - COM5 ID:10
Auto Mains Failure
Priority: 1
Manual Mode
Total
68.8 kW
69.0 kVA
6.7 kVAr
Pf
50.1 Hz
50.1 Hz
35.8 %
4.6 %
kW
kVAr
18.1 %
16.4 %
Total
62.7 kW
76.1 kVA
42.5 kVAr
0.82 Pf
Lag
Energy Generator
2784.6 kWh +
2891.8 kVAh
26.1 kVArh
1500 RPM
001358:12 Hrs
x100
Engine Starts 932
Fuel Consumption 7.4 L/hr
Fuel Used 21762 Litres
5.3 bar
Oil Press
17 °C
Coolant Temp
57 %
Fuel Level
14 °C
Oil Temp
11.7 V DC
Battery
10.1 V DC
Charge
System
Home
Engine
Generator
Utility
Warning (yellow)
Shutdown (red)
CAN link active (green)
CAN link lost (red)
CAN
CAN
s section.
e different
:CU
82 °C
Fuel Temp
epending upon module
nfiguration and/or CAN
CU support, some meters
ay not be displayed.

5.3.3 GENERATOR



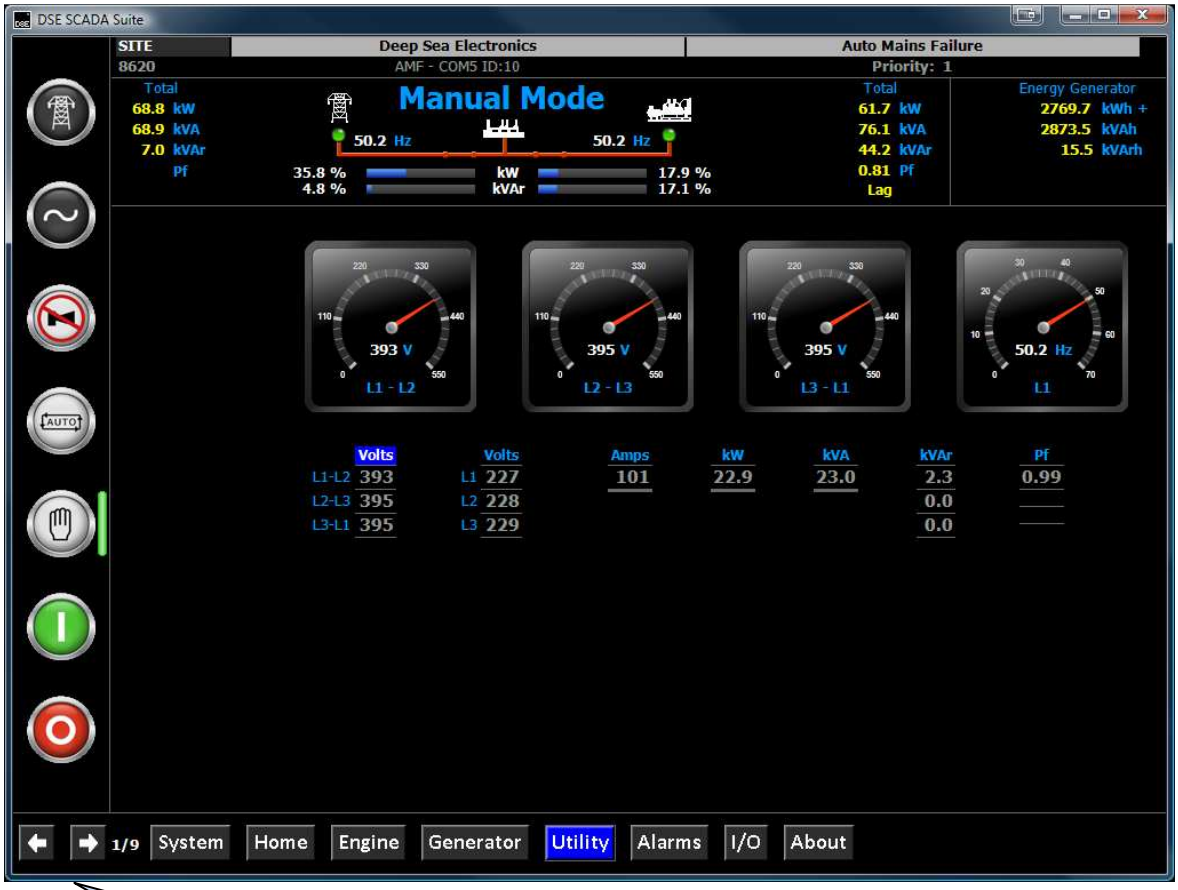
Indicates that this is page 1 of 9 in this section.

Press to move between the different pages including bargraph display:



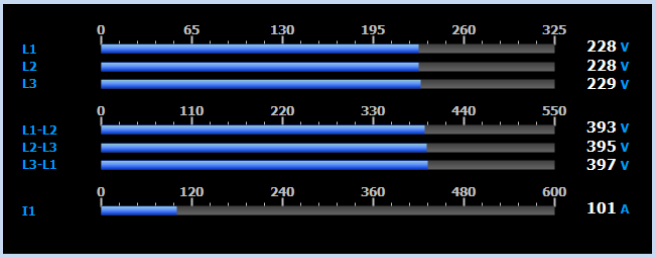
In line with normal convention:
Positive (+) power factor is lagging power factor
Negative (-) power factor is leading power factor

5.3.4 UTILITY (MAINS)

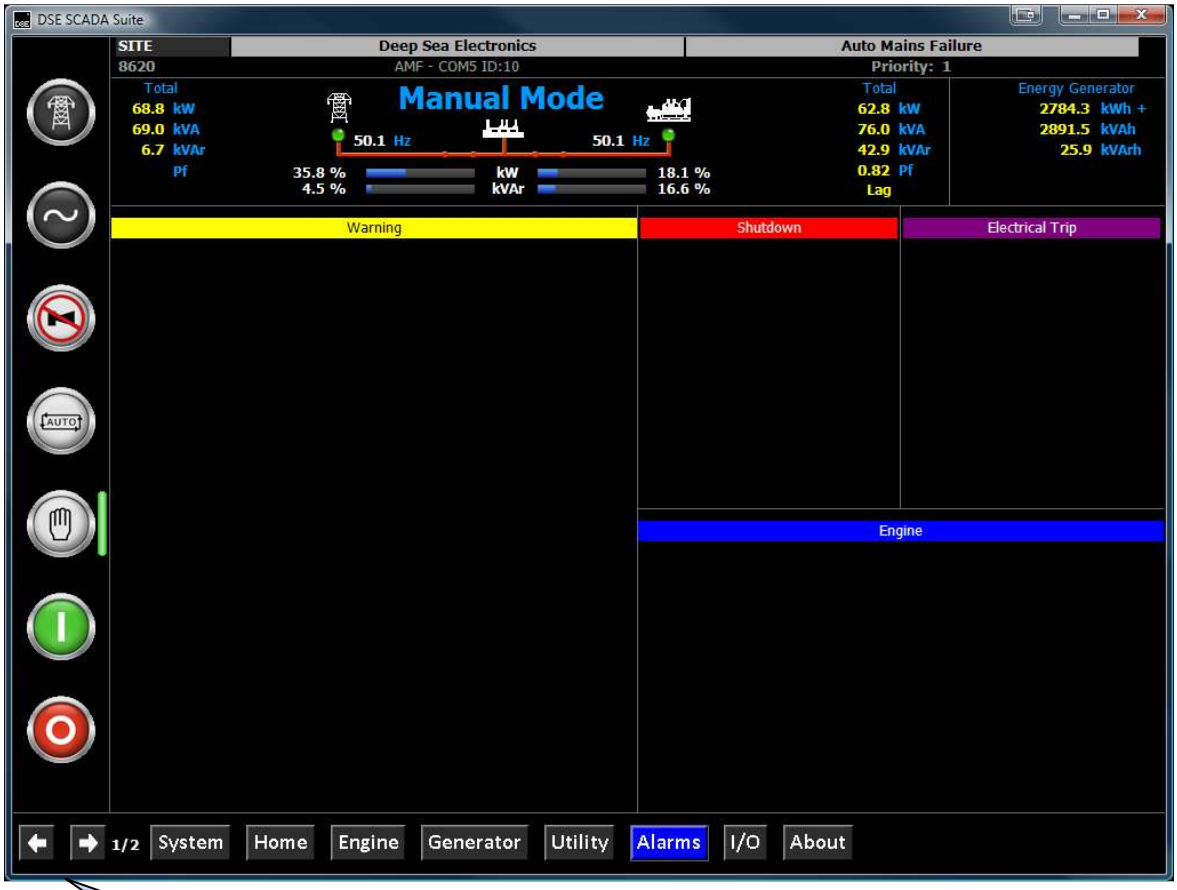


Indicates that this is page 1 of 3 in this section.

Press to move between the different pages including bargraph display:

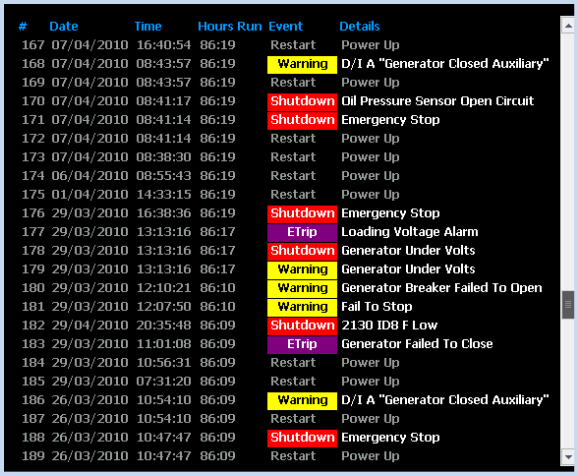


5.3.5 ALARMS



Indicates that this is page 1 of 2 in this section.

Press to move between the current alarms and the past event log :

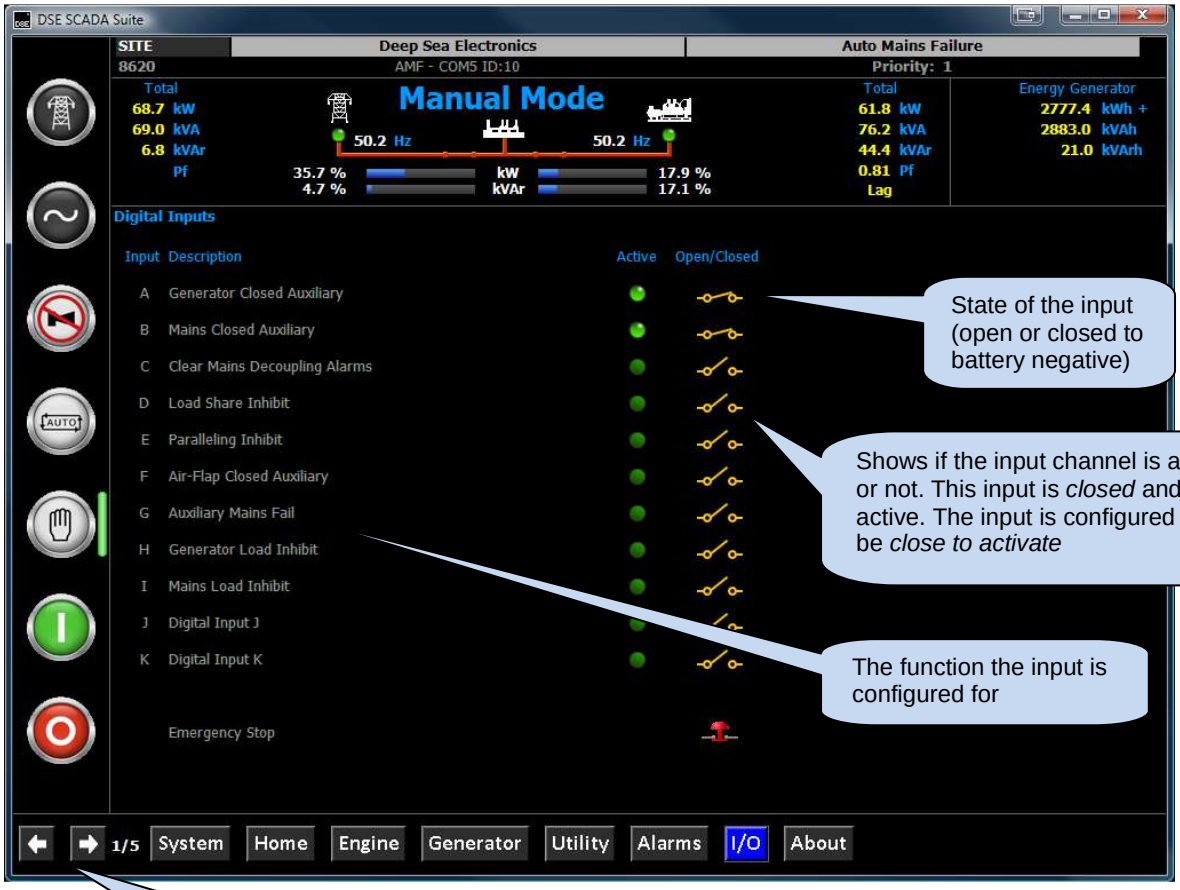


#	Date	Time	Hours Run	Event	Details
167	07/04/2010	16:40:54	86:19	Restart	Power Up
168	07/04/2010	08:43:57	86:19	Warning	D/I A "Generator Closed Auxiliary"
169	07/04/2010	08:43:57	86:19	Restart	Power Up
170	07/04/2010	08:41:17	86:19	Shutdown	Oil Pressure Sensor Open Circuit
171	07/04/2010	08:41:14	86:19	Shutdown	Emergency Stop
172	07/04/2010	08:41:14	86:19	Restart	Power Up
173	07/04/2010	08:38:30	86:19	Restart	Power Up
174	06/04/2010	08:55:43	86:19	Restart	Power Up
175	01/04/2010	14:33:15	86:19	Restart	Power Up
176	29/03/2010	16:38:36	86:19	Shutdown	Emergency Stop
177	29/03/2010	13:13:16	86:17	ETrip	Loading Voltage Alarm
178	29/03/2010	13:13:16	86:17	Shutdown	Generator Under Volts
179	29/03/2010	13:13:16	86:17	Warning	Generator Under Volts
180	29/03/2010	12:10:21	86:10	Warning	Generator Breaker Failed To Open
181	29/03/2010	12:07:50	86:10	Warning	Fail To Stop
182	29/04/2010	20:35:48	86:09	Shutdown	2130 ID8 F Low
183	29/03/2010	11:01:08	86:09	ETrip	Generator Failed To Close
184	29/03/2010	10:56:31	86:09	Restart	Power Up
185	29/03/2010	07:31:20	86:09	Restart	Power Up
186	26/03/2010	10:54:10	86:09	Warning	D/I A "Generator Closed Auxiliary"
187	26/03/2010	10:54:10	86:09	Restart	Power Up
188	26/03/2010	10:47:47	86:09	Shutdown	Emergency Stop
189	26/03/2010	10:47:47	86:09	Restart	Power Up

Alarm level	Colour/Title graphic
Warning	Warning
Electrical trip	Electrical Trip
Shutdown	Shutdown
ECU code	Engine

5.3.6 I/O

5.3.6.1 INPUTS



State of the input (open or closed to battery negative)

Shows if the input channel is active or not. This input is *closed* and is active. The input is configured to be *close to activate*

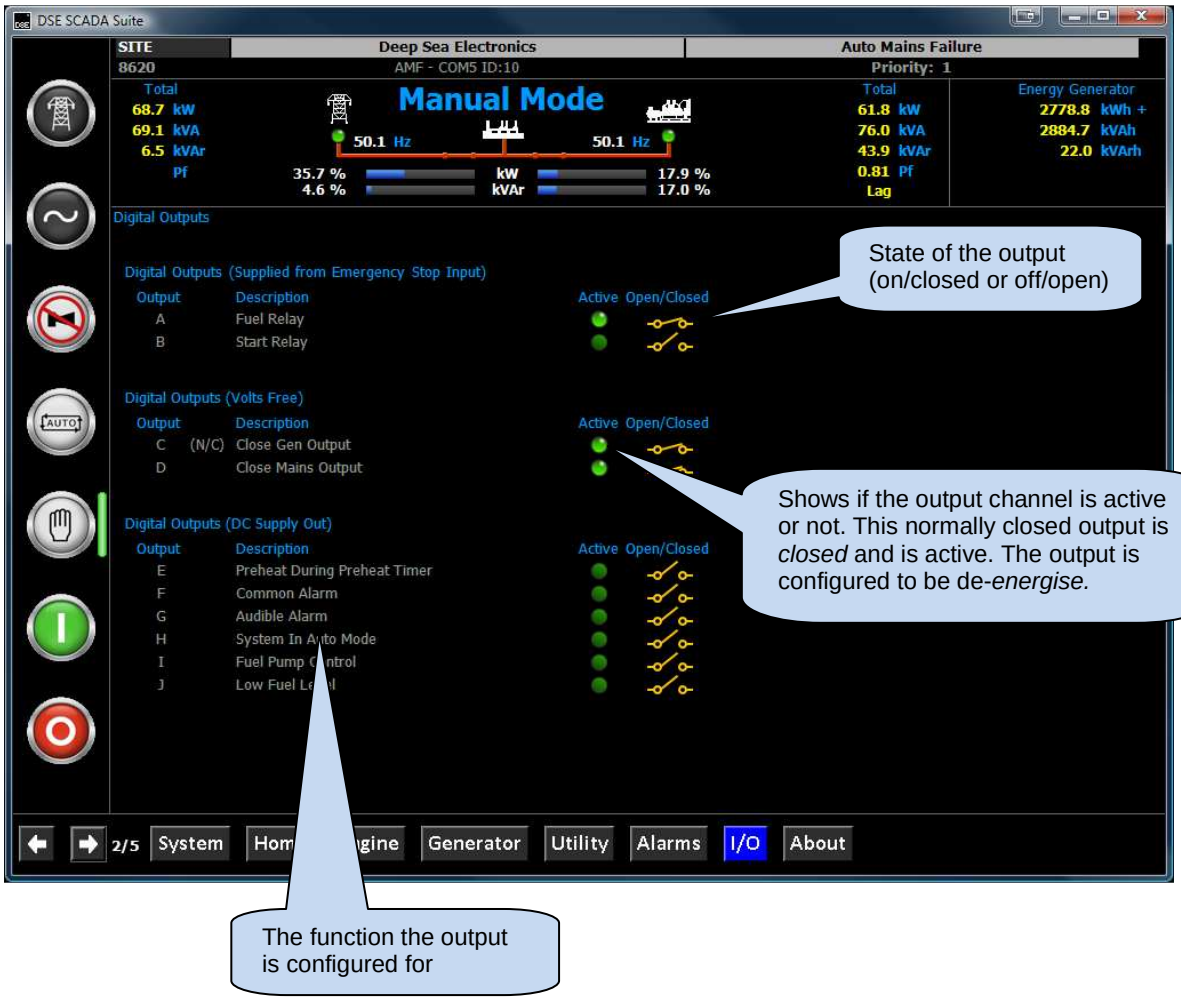
The function the input is configured for

Indicates that this is page 1 of 5 in this section.

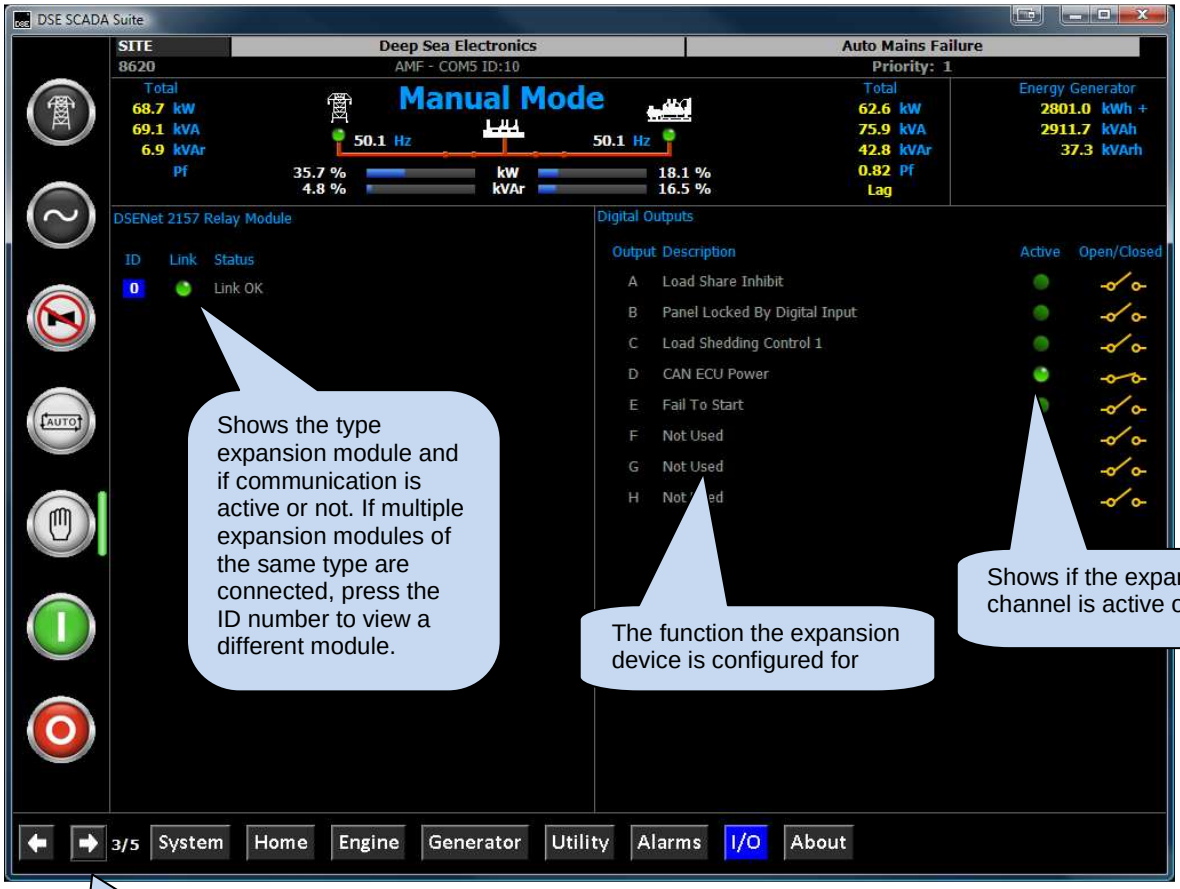
Press to move between the inputs and outputs of both the module and its expansion modules:

Digital Outputs
Digital Outputs (Supplied from Emergency Stop Input)
Output Description Active Open/Closed
A Fuel Relay
B Start Relay
Digital Outputs (Volts Free)
Output Description Active Open/Closed
C (N/C) Close Gen Output
D Close Mains Output
Digital Outputs (DC Supply Out)
Output Description Active Open/Closed
E Preheat During Preheat Timer
F Common Alarm
G Audible Alarm
H System In Auto Mode
I Fuel Pump Control
J Low Fuel Level

5.3.6.2 OUTPUTS



5.3.6.3 EXPASNION MODULES



Shows the type expansion module and if communication is active or not. If multiple expansion modules of the same type are connected, press the ID number to view a different module.

The function the expansion device is configured for

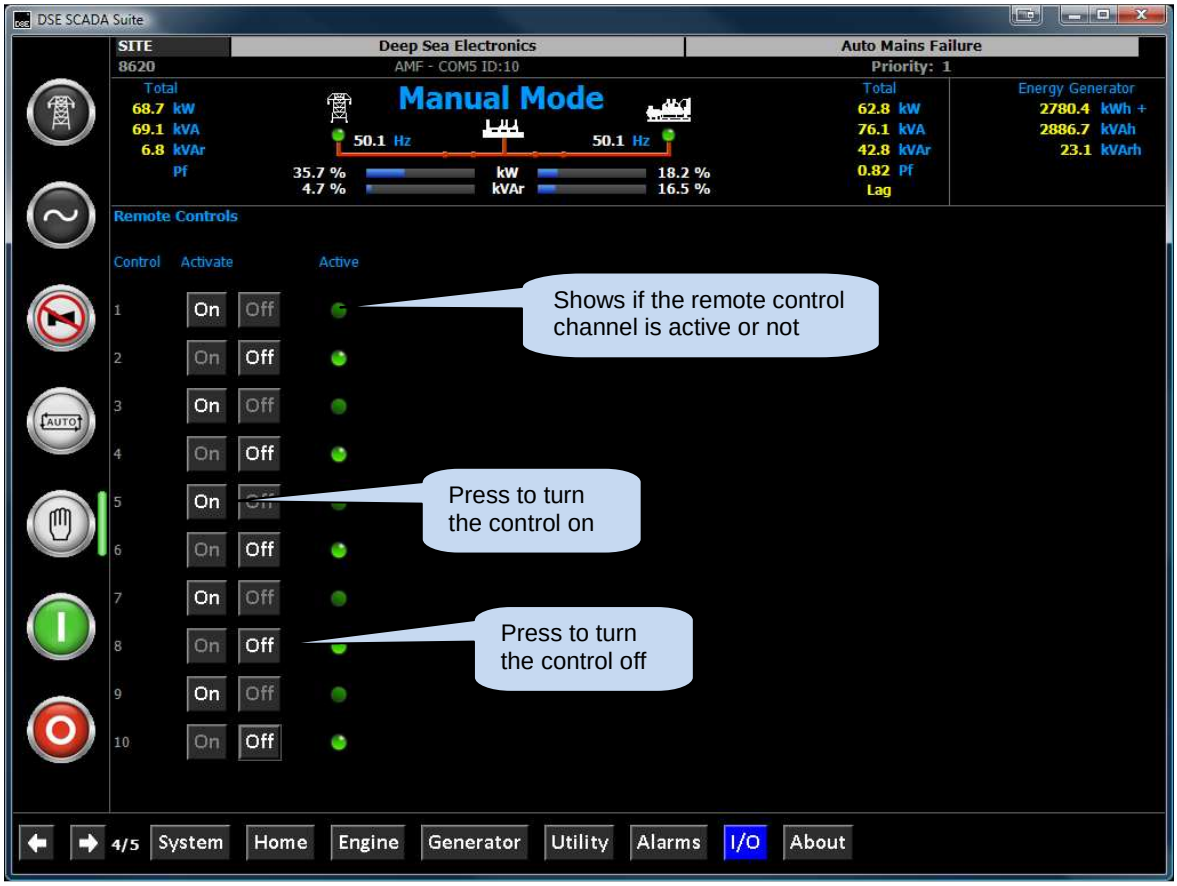
Shows if the expansion channel is active or not.

Indicates that this is page 3 of 5 in this section.

Press to move between the different types expansion modules and the inputs and outputs:

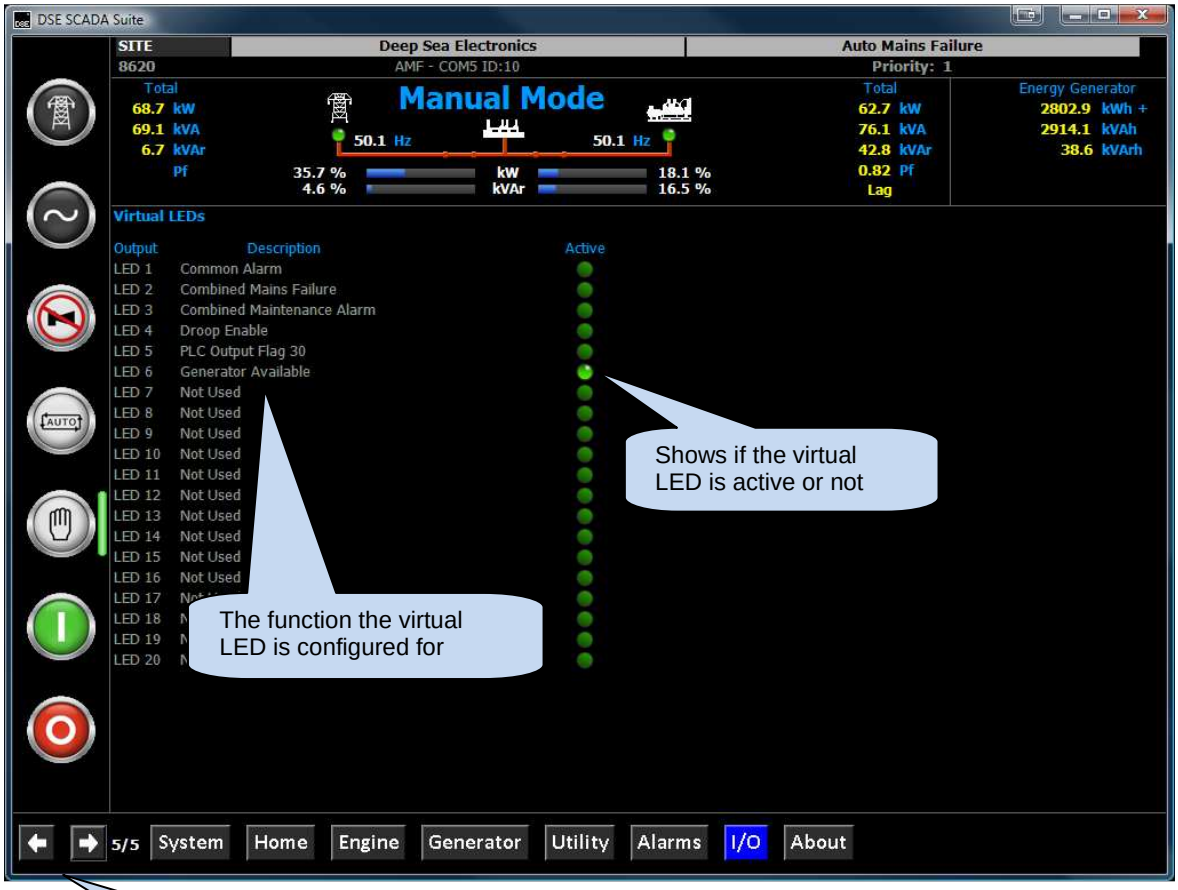
Digital Outputs
Digital Outputs (Supplied from Emergency Stop Input)
Output Description Active Open/Closed
A Fuel Relay
B Start Relay
Digital Outputs (Volts Free)
Output Description Active Open/Closed
C (N/C) Close Gen Output
D Close Mains Output
Digital Outputs (DC Supply Out)
Output Description Active Open/Closed
E Preheat During Preheat Timer
F Common Alarm
G Audible Alarm
H System In Auto Mode
I Fuel Pump Control
J Low Fuel Level

5.3.6.4 REMOTE CONTROL



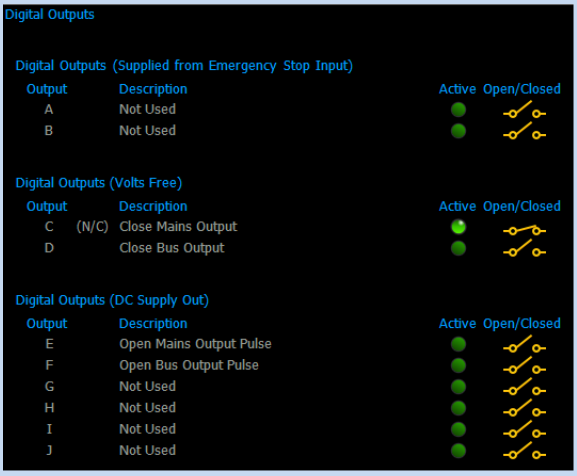
NOTE: Check the modules configuration before activating a remote control channel. Activating a remote control channel can change the operation of the DSE module.

5.3.6.5 VIRTUAL LEDS

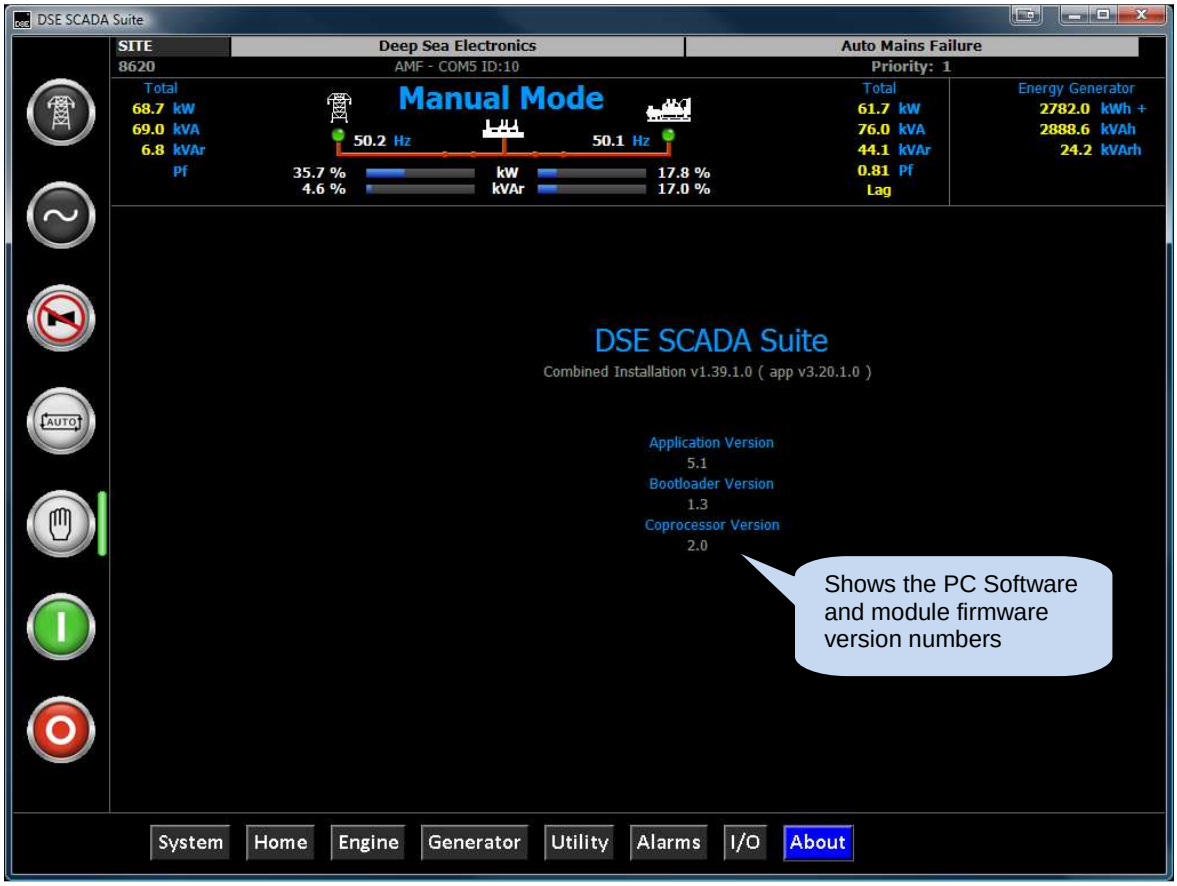


Indicates that this is page 6 of 6 in this section.

Press to move between the inputs, outputs and expansion modules:



5.3.7 ABOUT


DSE SCADA Suite
SITE
8620
Deep Sea Electronics
AMF - COM5 ID:10
Auto Mains Failure
Priority: 1
Total
68.7 kW
69.0 kVA
6.8 kVAr
Pf
Manual Mode
50.2 Hz
50.1 Hz
35.7 %
4.6 %
kW
kVAr
17.8 %
17.0 %
Total
61.7 kW
76.0 kVA
44.1 kVAr
0.81 Pf
Lag
Energy Generator
2782.0 kWh +
2888.6 kVAh
24.2 kVArh
DSE SCADA Suite
Combined Installation v1.39.1.0 (app v3.20.1.0)
Application Version
5.1
Bootloader Version
1.3
Coprocessor Version
2.0
Shows the PC Software and module firmware version numbers
System
Home
Engine
Generator
Utility
Alarms
I/O
About

5.4 MAINS CONTROLLER

NOTE: Depending upon module type and configuration, certain pages and values may not be displayed, the screenshots are for indication only.

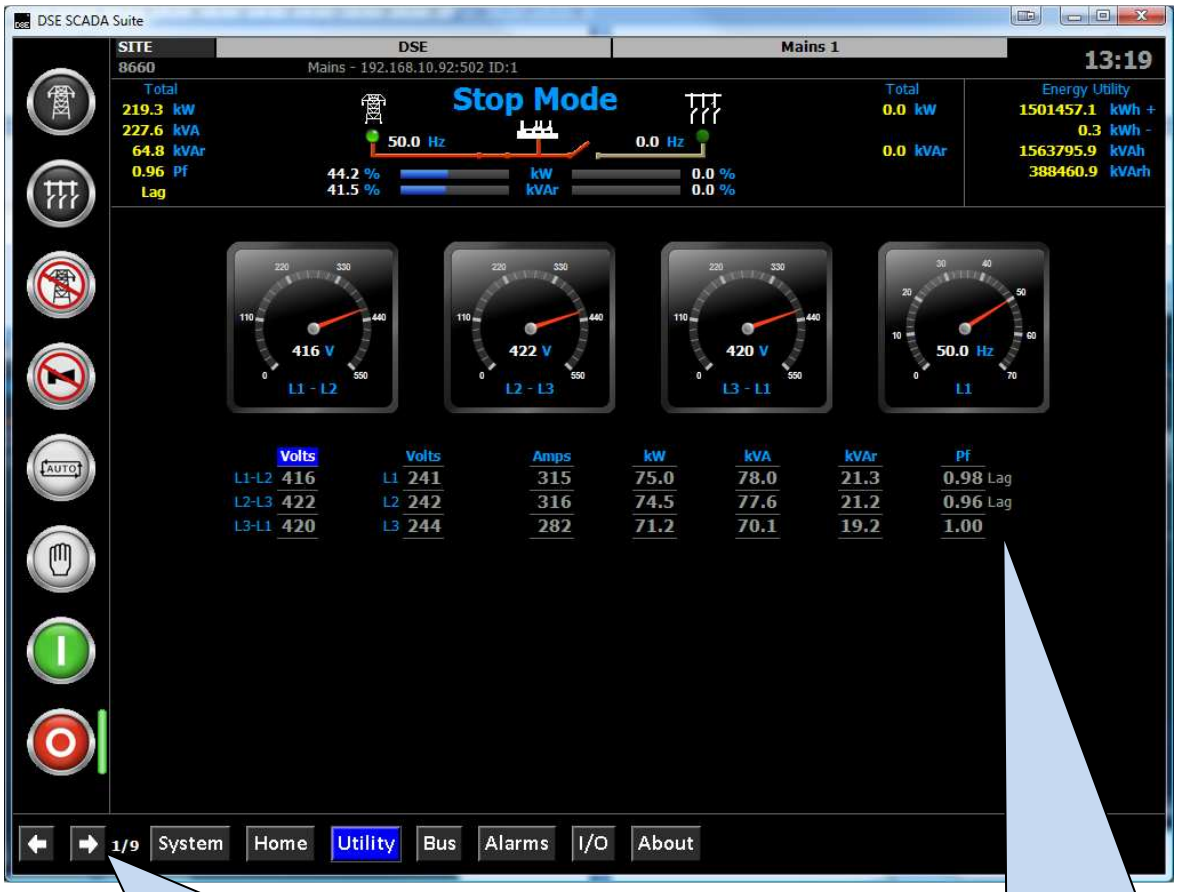
5.4.1 HOME

Mains Identity, Status and overview is shown at the top of every page. Mains and Site Identity are set using the DSE Config Suite Software.

Control buttons to mimic the module's own fascia mounted buttons. Availability of some buttons depends upon the module type. The vertical green bar shows the module's current operating mode.

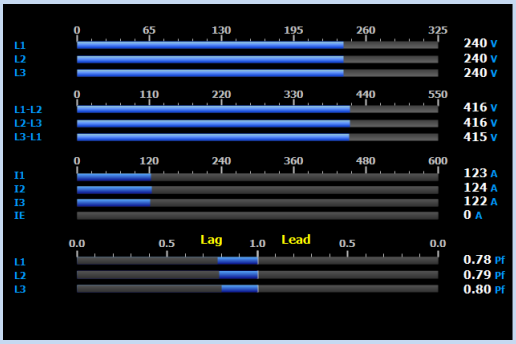
Indicates the current page selected. Click the buttons to change the page.

5.4.2 UTILITY (MAINS)



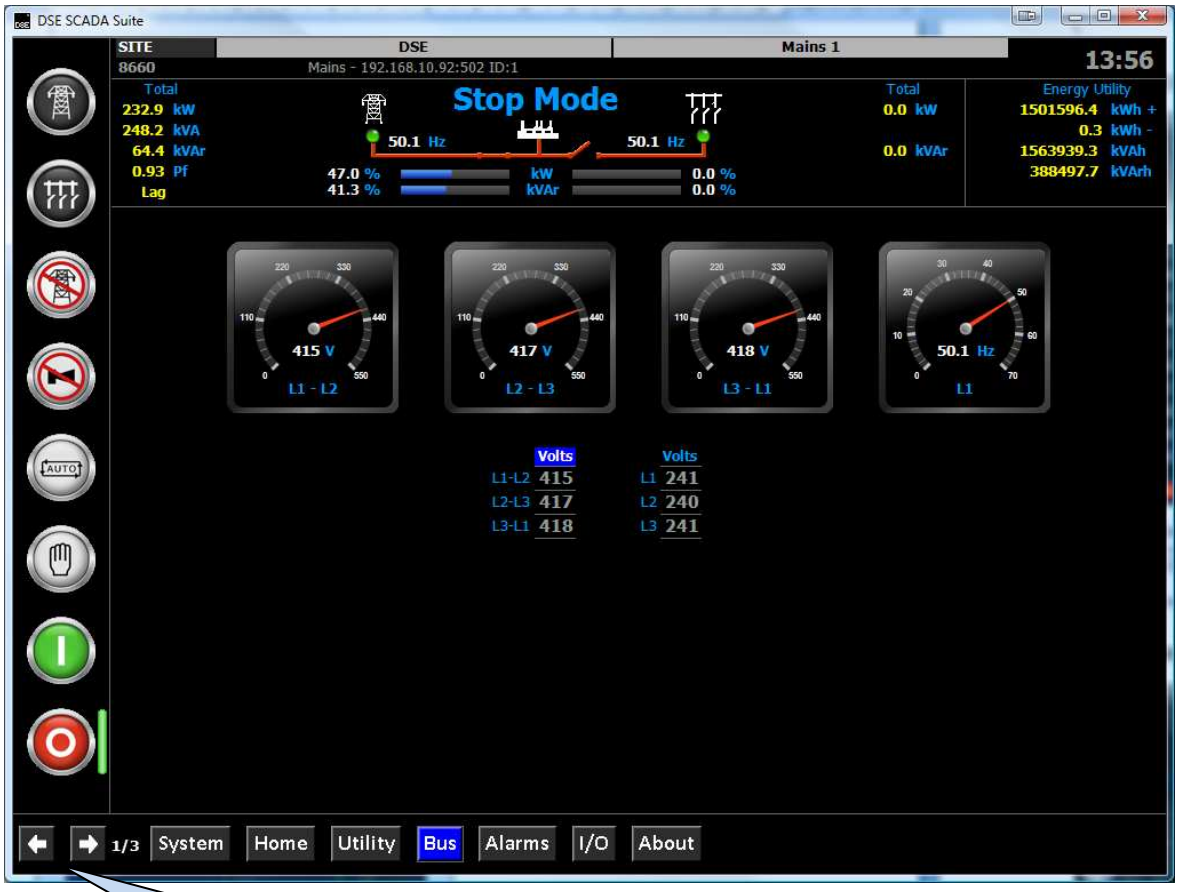
Indicates that this is page 1 of 9 in this section.

Press to move between the different pages including bar graph display:



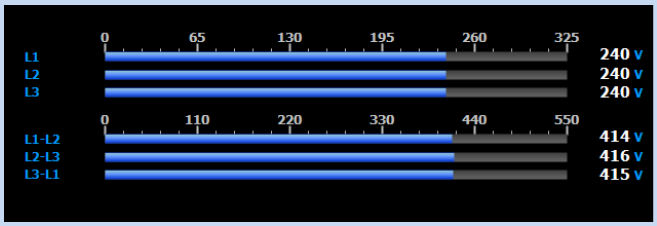
In line with normal convention:
Positive (+) power factor is lagging power factor
Negative (-) power factor is leading power factor

5.4.3 BUS



Indicates that this is page 1 of 3 in this section.

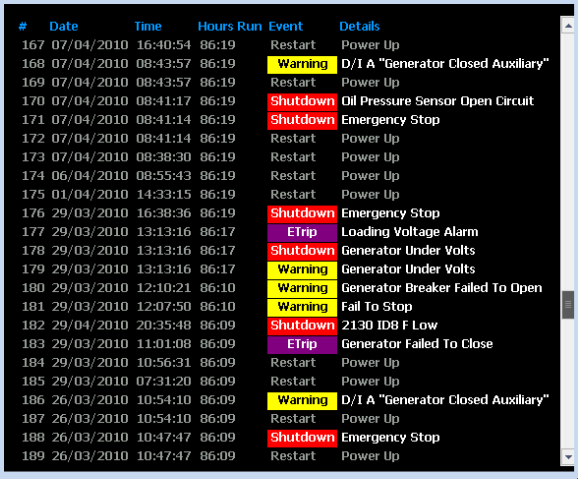
Press to move between the different pages including bargraph display:



5.4.4 ALARMS

Indicates that this is page 1 of 2 in this section.

Press to move between the current alarms and the past event log :

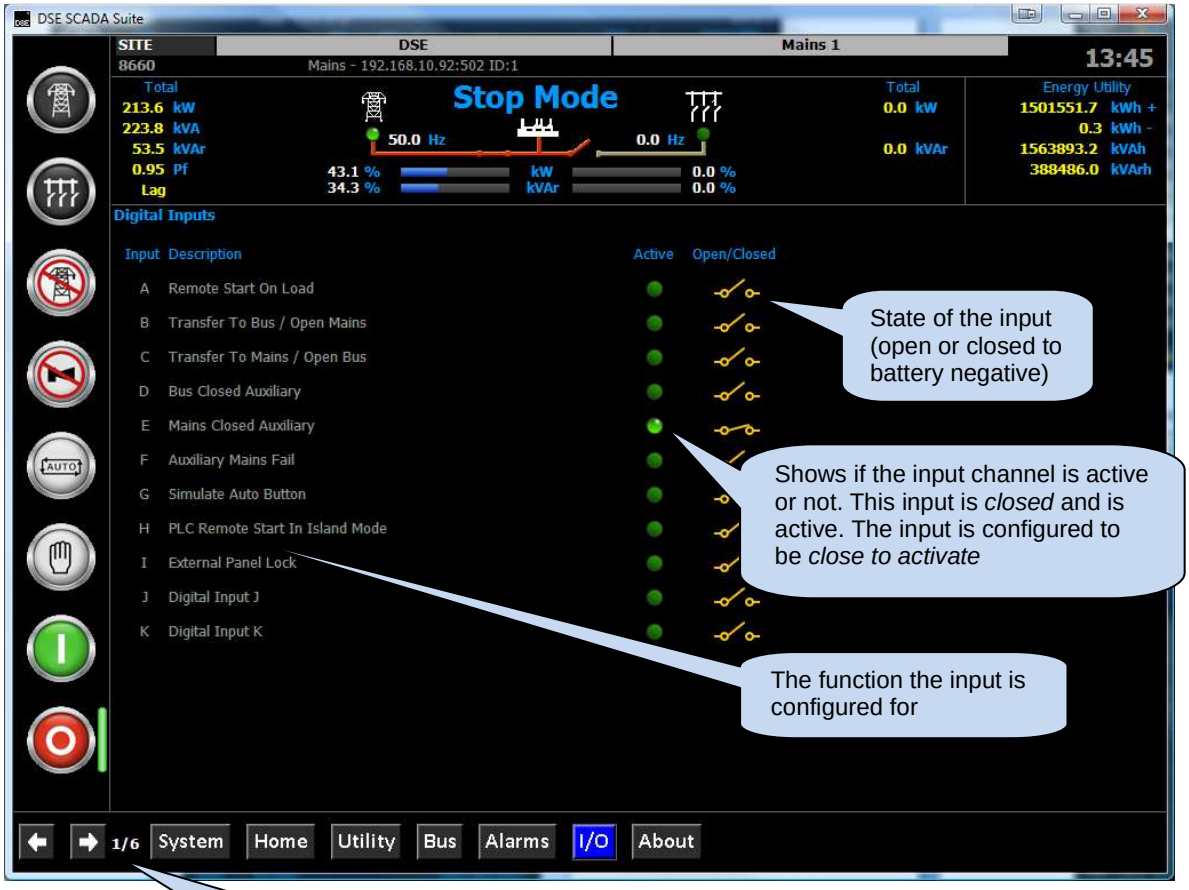


#	Date	Time	Hours Run	Event	Details
167	07/04/2010	16:40:54	86:19	Restart	Power Up
168	07/04/2010	08:43:57	86:19	Warning	D/I A "Generator Closed Auxiliary"
169	07/04/2010	08:43:57	86:19	Restart	Power Up
170	07/04/2010	08:41:17	86:19	Shutdown	Oil Pressure Sensor Open Circuit
171	07/04/2010	08:41:14	86:19	Shutdown	Emergency Stop
172	07/04/2010	08:41:14	86:19	Restart	Power Up
173	07/04/2010	08:38:30	86:19	Restart	Power Up
174	06/04/2010	08:55:43	86:19	Restart	Power Up
175	01/04/2010	14:33:15	86:19	Restart	Power Up
176	29/03/2010	16:38:36	86:19	Shutdown	Emergency Stop
177	29/03/2010	13:13:16	86:17	ETrip	Loading Voltage Alarm
178	29/03/2010	13:13:16	86:17	Shutdown	Generator Under Volts
179	29/03/2010	13:13:16	86:17	Warning	Generator Under Volts
180	29/03/2010	12:10:21	86:10	Warning	Generator Breaker Failed To Open
181	29/03/2010	12:07:50	86:10	Warning	Fail To Stop
182	29/04/2010	20:35:48	86:09	Shutdown	2130 ID8 F Low
183	29/03/2010	11:01:08	86:09	ETrip	Generator Failed To Close
184	29/03/2010	10:56:31	86:09	Restart	Power Up
185	29/03/2010	07:31:20	86:09	Restart	Power Up
186	26/03/2010	10:54:10	86:09	Warning	D/I A "Generator Closed Auxiliary"
187	26/03/2010	10:54:10	86:09	Restart	Power Up
188	26/03/2010	10:47:47	86:09	Shutdown	Emergency Stop
189	26/03/2010	10:47:47	86:09	Restart	Power Up

Alarm level	Colour/Title graphic
Warning	Warning
Electrical trip	Electrical Trip
Shutdown	Shutdown

5.4.5 I/O

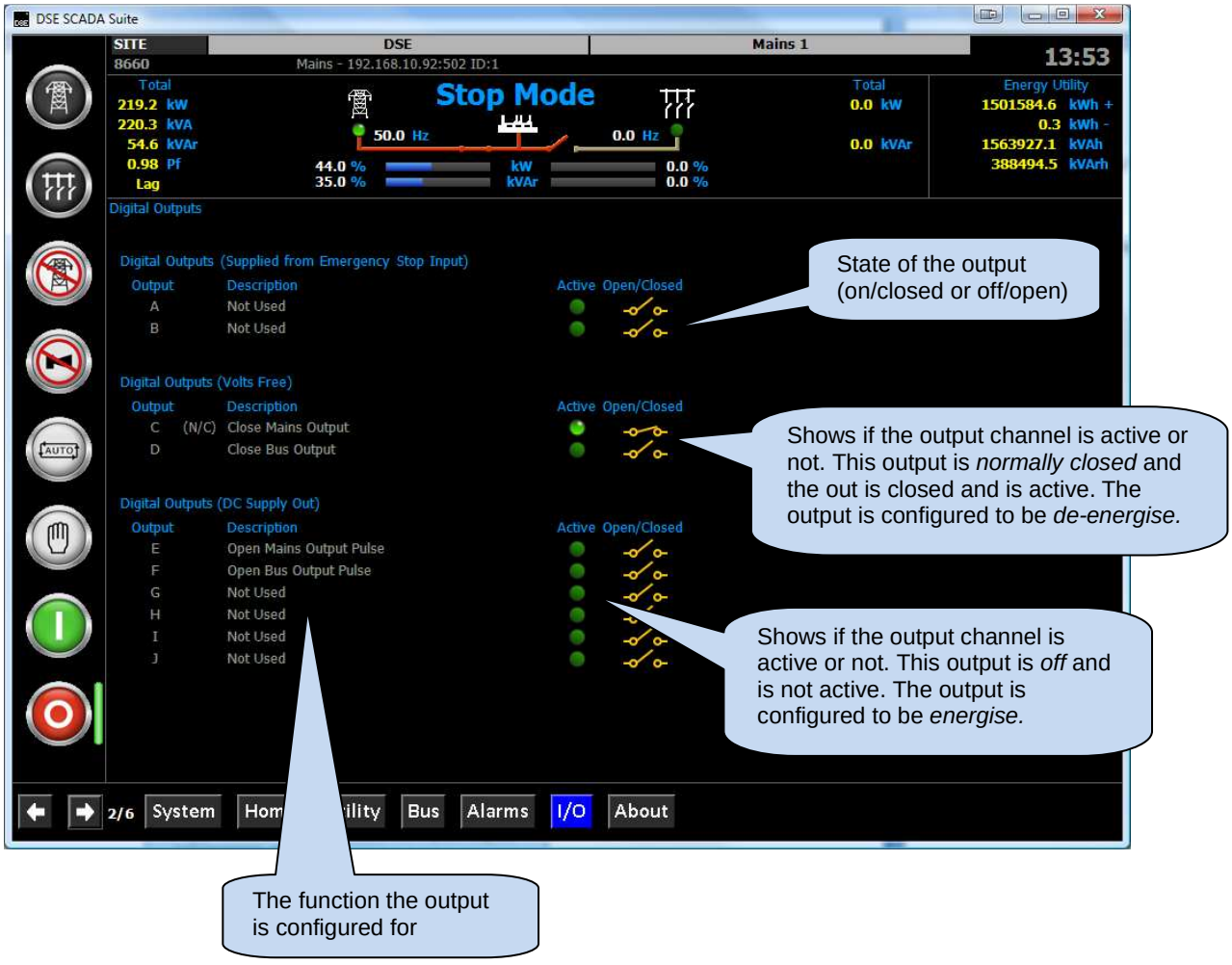
5.4.5.1 INPUTS



Indicates that this is page 1 of 6 in this section.

Press to move between the inputs, outputs and expansion modules:

5.4.5.2 OUTPUTS



5.4.5.3 EXPASNION MODULES

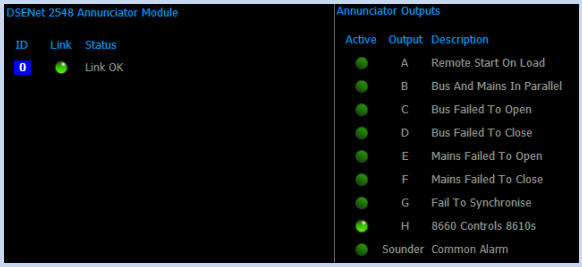
Shows the type expansion module and if communication is active or not. If multiple expansion modules of the same type are connected, press the ID number to view a different module.

The function the expansion device is configured for

Shows if the expansion channel is active or not.

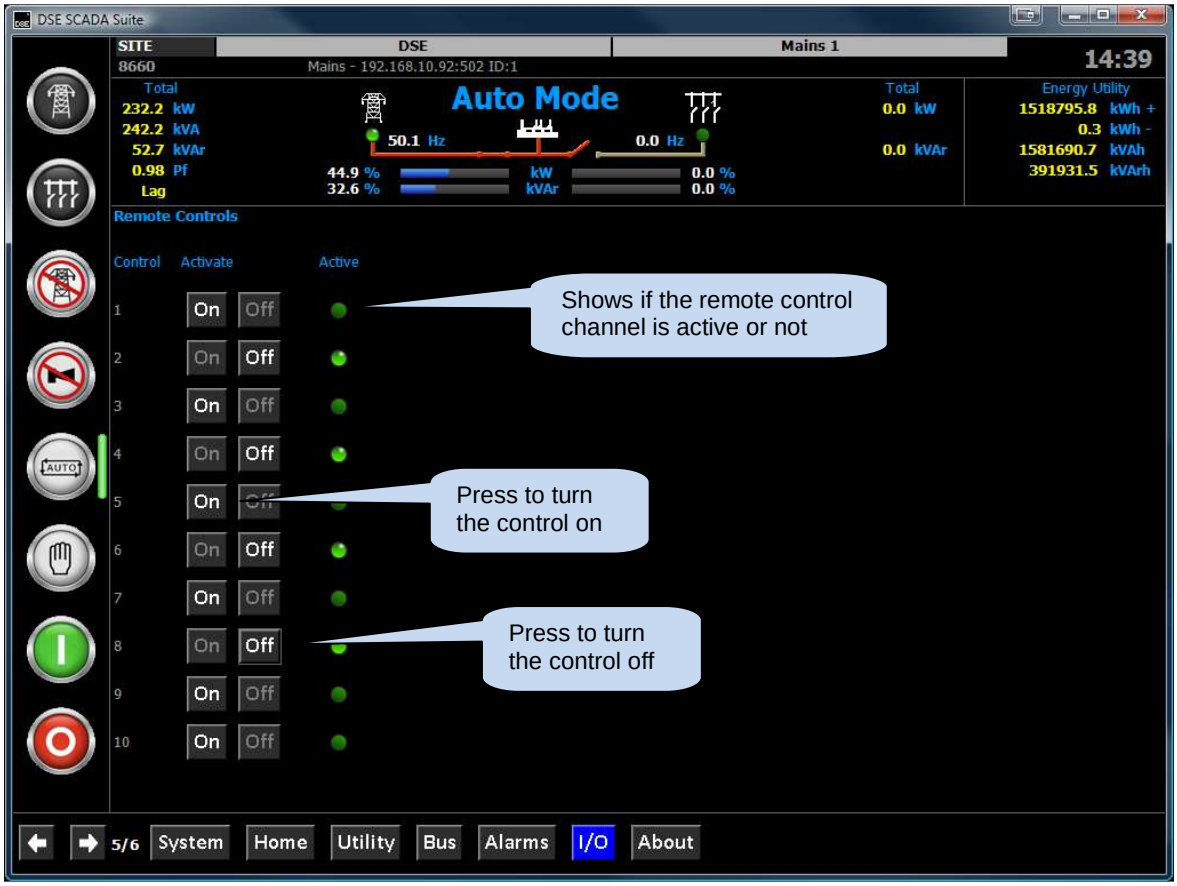
Indicates that this is page 4 of 6 in this section.

Press to move between the different types expansion modules and the inputs and outputs:


DSENet 2548 Annunciator Module
ID Link Status
0 Link OK
Annunciator Outputs
Active Output Description
A Remote Start On Load
B Bus And Mains In Parallel
C Bus Failed To Open
D Bus Failed To Close
E Mains Failed To Open
F Mains Failed To Close
G Fail To Synchronise
H 8660 Controls 8610s
Sounder Common Alarm

.

5.4.5.4 REMOTE CONTROL



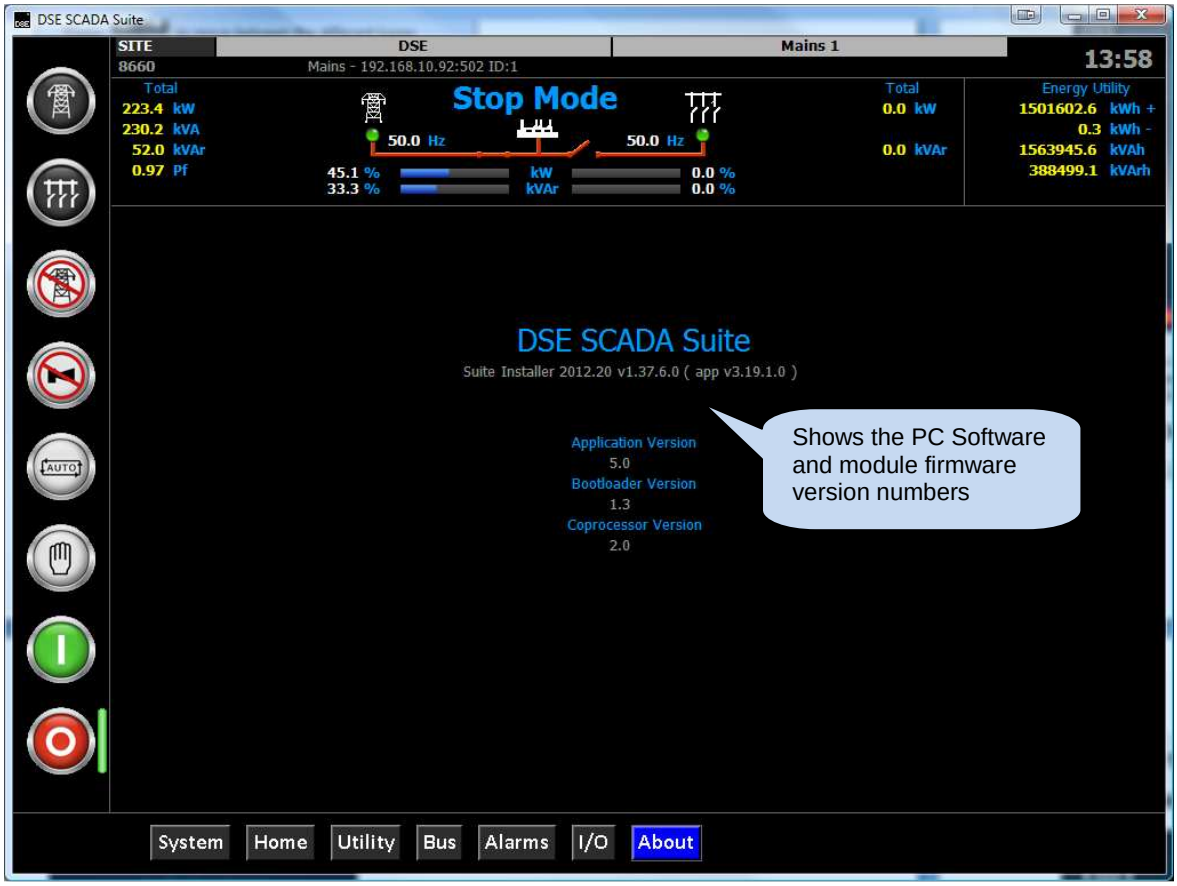
NOTE: Check the modules configuration before activating a remote control channel. Activating a remote control channel can change the operation of the DSE module.

5.4.5.5 VIRTUAL LEDS

Indicates that this is page 6 of 6 in this section.

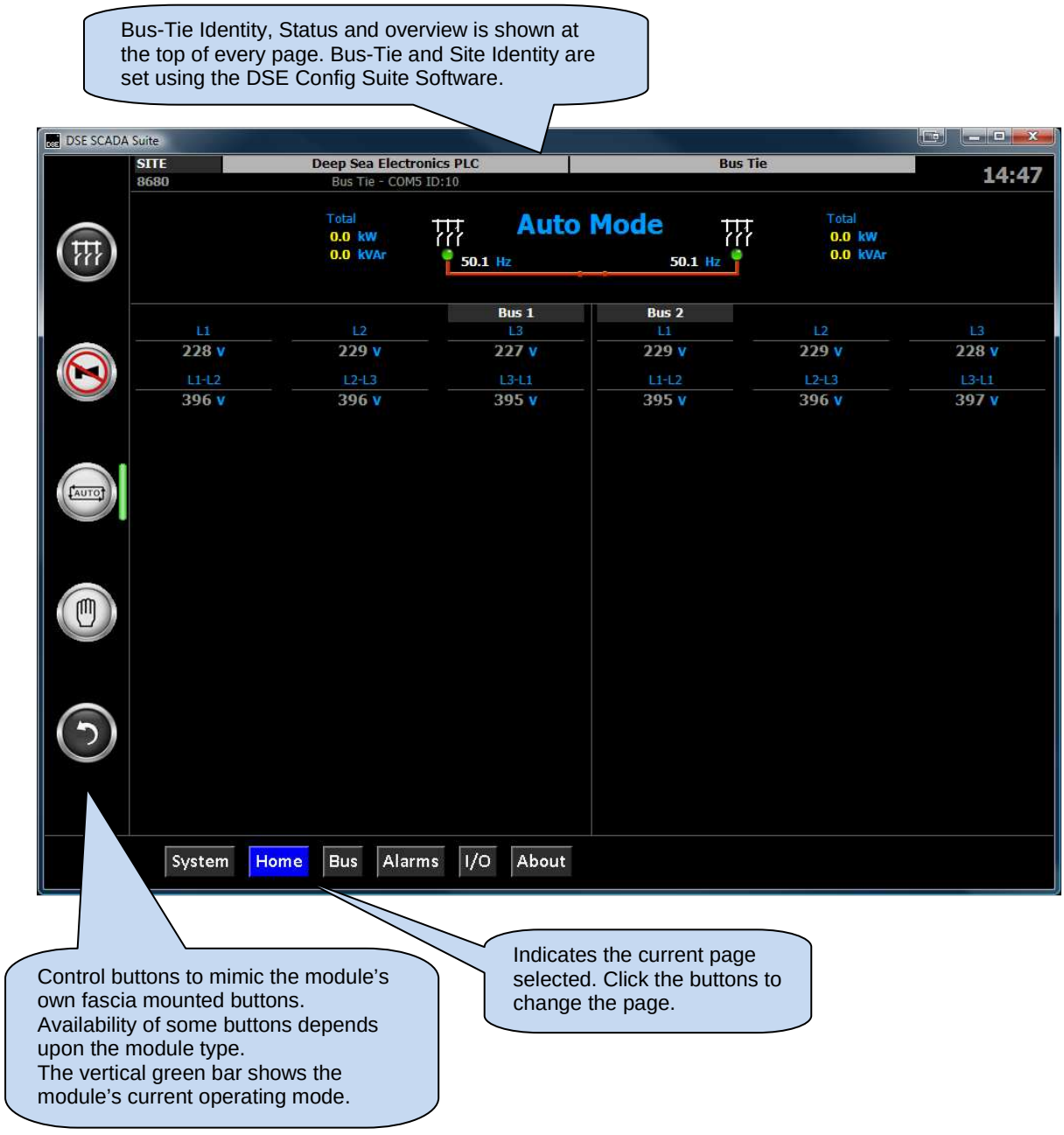
Press to move between the inputs, outputs and expansion modules:

5.4.6 ABOUT


DSE SCADA Suite
SITE
8660
DSE
Mains - 192.168.10.92:502 ID:1
Mains 1
13:58
Total
223.4 kW
230.2 kVA
52.0 kVAr
0.97 Pf
Stop Mode
50.0 Hz
50.0 Hz
45.1 %
33.3 %
kW
kVAr
0.0 %
0.0 %
Total
0.0 kW
0.0 kVAr
Energy Utility
1501602.6 kWh +
0.3 kWh -
1563945.6 kVAh
388499.1 kVArh
DSE SCADA Suite
Suite Installer 2012.20 v1.37.6.0 (app v3.19.1.0)
Application Version
5.0
Bootloader Version
1.3
Coprocessor Version
2.0
Shows the PC Software and module firmware version numbers
System
Home
Utility
Bus
Alarms
I/O
About

5.5 BUS TIE CONTROLLER

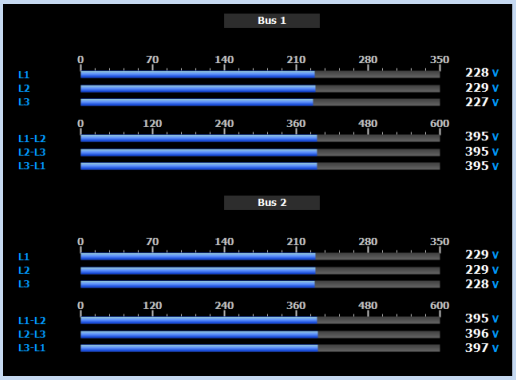
5.5.1 HOME



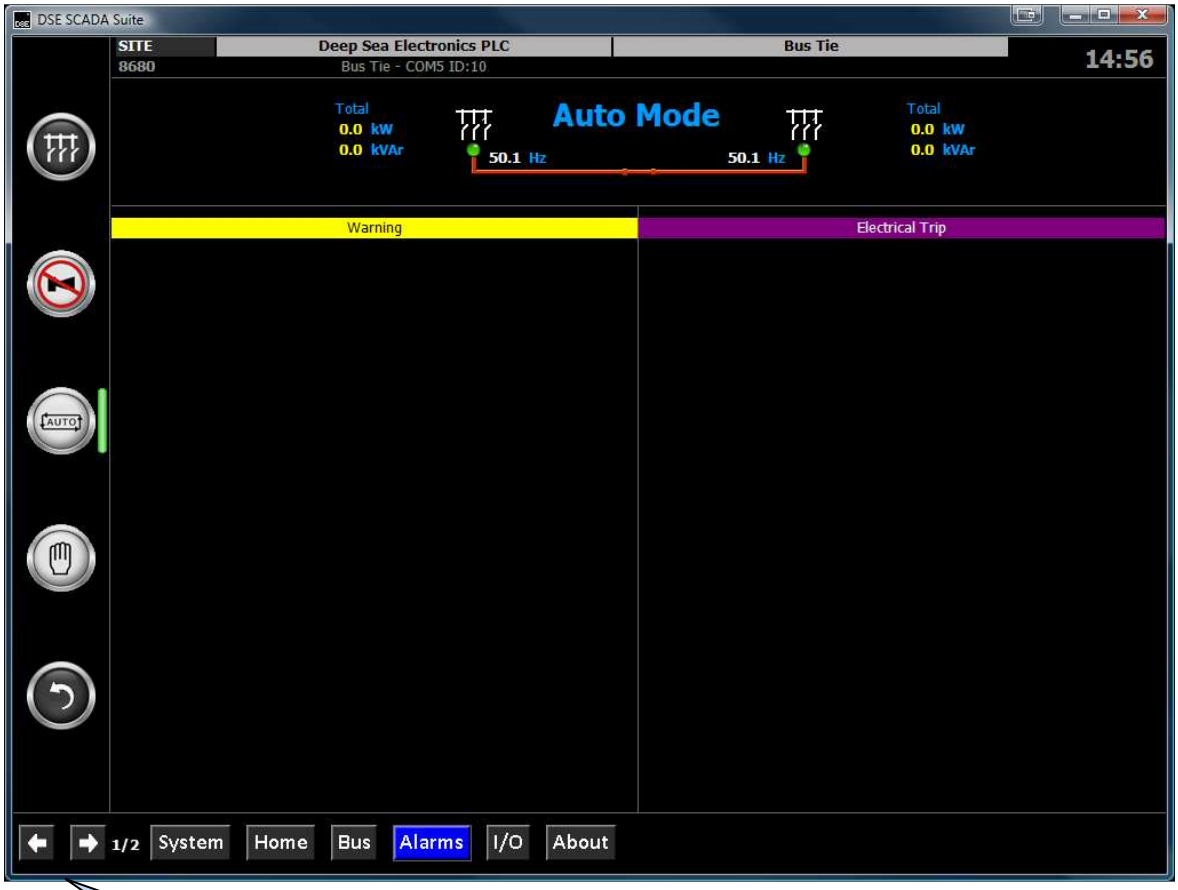
5.5.2 BUS

Indicates that this is page 1 of 5 in this section.

Press to move between the different pages including bargraph display:

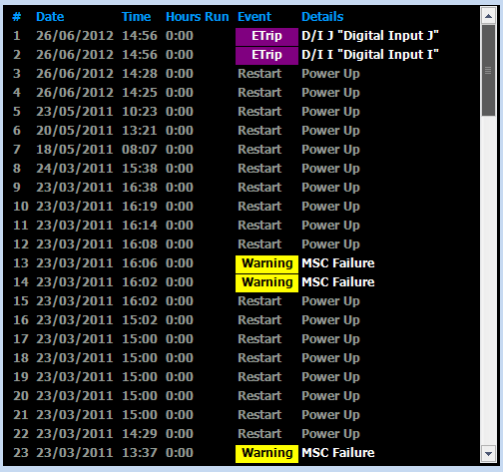


5.5.3 ALARMS



Indicates that this is page 1 of 2 in this section.

Press to move between the current alarms and the past event log :



#	Date	Time	Hours Run	Event	Details
1	26/06/2012	14:56	0:00	ETrip	D/I J "Digital Input J"
2	26/06/2012	14:56	0:00	ETrip	D/I I "Digital Input I"
3	26/06/2012	14:28	0:00	Restart	Power Up
4	26/06/2012	14:25	0:00	Restart	Power Up
5	23/05/2011	10:23	0:00	Restart	Power Up
6	20/05/2011	13:21	0:00	Restart	Power Up
7	18/05/2011	08:07	0:00	Restart	Power Up
8	24/03/2011	15:38	0:00	Restart	Power Up
9	23/03/2011	16:38	0:00	Restart	Power Up
10	23/03/2011	16:19	0:00	Restart	Power Up
11	23/03/2011	16:14	0:00	Restart	Power Up
12	23/03/2011	16:08	0:00	Restart	Power Up
13	23/03/2011	16:06	0:00	Warning	MSC Failure
14	23/03/2011	16:02	0:00	Warning	MSC Failure
15	23/03/2011	16:02	0:00	Restart	Power Up
16	23/03/2011	15:02	0:00	Restart	Power Up
17	23/03/2011	15:00	0:00	Restart	Power Up
18	23/03/2011	15:00	0:00	Restart	Power Up
19	23/03/2011	15:00	0:00	Restart	Power Up
20	23/03/2011	15:00	0:00	Restart	Power Up
21	23/03/2011	15:00	0:00	Restart	Power Up
22	23/03/2011	14:29	0:00	Restart	Power Up
23	23/03/2011	13:37	0:00	Warning	MSC Failure

Alarm level	Colour/Title graphic
Warning	Warning
Electrical trip	Electrical Trip

5.5.4 I/O

5.5.4.1 INPUTS

State of the input (open or closed to battery negative)

Shows if the input channel is active or not. This input is *closed* and is active. The input is configured to be *close to activate*

The function the input is configured for

Indicates that this is page 1 of 6 in this section.

Press to move between the inputs and outputs of both the module and its expansion modules:

.

5.5.4.2 OUTPUTS

5.5.4.3 EXPASNION MODULES

Indicates that this is page 3 of 3 in this section.

Press to move between the different types expansion modules and the inputs and outputs:

.

5.5.5 ABOUT

DSE SCADA Suite
SITE
8680
Deep Sea Electronics PLC
Bus Tie - COM5 ID:10
Bus Tie
15:02
Total
0.0 kW
0.0 kVAr
Auto Mode
50.0 Hz
50.0 Hz
Total
0.0 kW
0.0 kVAr
DSE SCADA Suite
Combined Installation v1.39.1.0 (app v3.20.1.0)
Application Version
2.1
Bootloader Version
1.3
Coprocessor Version
2.2
Shows the PC Software and module firmware version numbers
System
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